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ABSTRACT

A study that examined the personality and environmental factors affecting South African female career interest and career commitment at different life phases resulted in development of a model of vocational behavior. Selected for the study sample were 111 graduated white women employed by the Council for Scientific and Industrial Research. The women who differed in age, marital status, maternal status, field of specialization, and level of functioning, completed the following tests: (1) Ben Sex Role Inventory, (2) the 16 Personality Factor Questionnaire, and (3) the Mehrabian Measure of Achieving Tendency for Females. Analysis of the test results revealed that a masculine sex role identity, a need to achieve, and independent behavior are prerequisites for accepting and handling higher level job responsibilities. Also found to influence satisfaction with life were sex role identity, marital status, personality, age, and attitudes toward work. Based on these data, a model of female vocational behavior was developed. The following stages were included in the model: an entry stage, a formative stage, a normative stage, and a performance stage. Recommendations included calls to help women accept executive job possibilities and adapt traditional adult life expectations to meet present day realities. (MN)

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SPECIAL REPORT

PERS 327

FEMALE CAREER COMMITMENT
(A life-span perspective)

J van Rooyen

NATIONAL INSTITUTE FOR PERSONNEL RESEARCH
COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

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For, the body being the instrument of our grasp upon the world, the world is bound to seem a very different thing when apprehended in one manner or another. This accounts for our lengthy study of the biological facts; they are one of the keys to the understanding of woman. But I deny that they establish for her a fixed and inevitable destiny.

Simone de Beauvoir
The Second Sex (1965; p.209)

So then, as God can create what He will, so can He change the nature of what He has created at His good pleasure. And the alteration of the known nature of any creature into a nature unknown, is not opposite unto the laws of nature.

St Augustine
The City of God
(Mann-Borghese, 1963; p.209)

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SUMMARY

Female labour participation is essential to meet world economic and social developmental requirements. South African women constitute an important component of our economically active labour force and offer educational sophistication and skills required to meet professional and managerial manpower shortages. Labour statistics indicate, however, that women tend to train and function in restricted work spheres.

Discriminatory work practices affect women in their career development. Women are also accused of lacking aspiration to achieve recognition in the executive suite.

The number of women aspiring to succeed at executive level, challenge the assumption that all women are not motivated to achieve, or are not career orientated.

This study investigated in what way, and why, women differ in their experience and assessment of a work situation.

Research objectives were:

- (a) To identify personality factors affecting women at work and in their career interest;
- (b) To identify environmental variables affecting female career commitment at different life phases;
- (c) To develop a model of female vocational behaviour.

The sample consisted of graduated women, employed by a research organisation.

Psychological research instruments included a sex role inventory, a measure of need to achieve and a personality questionnaire.

Biographical and environmental information was obtained by questionnaire and confirmed during interviews.

MANOVA and Chi-square analyses were done.

Subjects differed in their sex role identity. Masculine sex role identity subjects were significantly more independent and need-to-achieve orientated than their feminine sex role identity counterparts, irrespective of age or marital status. They were more interested in a career and were employed in more complex jobs than feminine sex role identity subjects.

Interrelationships between sex role identity, marital status, personality, age, and attitude to work were found to influence satisfaction with life. Marriage, marital demands and work become important life events at different stages of women's lives. Career commitment develops when work becomes a central life issue.

A model was developed, depicting female adult life-span experiences and work or career implications.

Recommendations emphasise the need to:

- (a) assist women in resolving personal role conflict;
- (b) develop female employees to accept executive job responsibilities;
- (c) counsel women to adapt traditional adult life expectations to meet present-day realities.

LIST OF TERMS

The following brief definitions of selected terms are provided to orientate readers in terms of the central issues involved in this study.

Agency:
Agentic Behaviour

This relates to traditionally accepted masculine behaviour and is defined as an active, outward striving to compete, to achieve, to be accepted as an efficient worker, to be self-sufficient.

Alienation:

This refers to discordance in an individual's perception of the real and the ideal; the experienced and the expected. Alienation is a subjective state and individuals differ in their perception and level of alienation, and the precipitating conditions causing alienation.

Career:

This can be defined as the particular sequence of experiences and personal changes, both unique and general, which an individual goes through during the entire course of her life. This can include a succession of jobs.

Commitment:

The act or process of engaging oneself to a certain interest, line of conduct or activity. Work and career commitment therefore relates to the relative degree of importance accorded to work and a particular vocation in relation to family and other obligations, and an expectation of work continuity irrespective of life circumstances.

Communion:

This relates to traditionally accepted feminine behaviour and can be defined as a need to care, to assist, to be a nurturer, to be accepted as loving and caring. It reflects an expectation of affiliation.

Congruence/
Goodness of fit:

Congruence relates to a sense of harmony and agreement between individual and environment. Compatibility between traits of the individual and role demands can result in experiences of goodness of fit and congruence. When compatibility does not occur, the individual can experience conflict, and feelings of discomfort or being pulled in different directions.

Life event:

This can be defined as an experience in an individual's life which requires assessment, adaptation and possible implementation of different behaviour strategies to deal with changing psychological and environmental characteristics.

Life span:

This refers to the process of human development from childhood to old age. It includes analysis of transitions into adulthood and the question of what affects stability and change during the years from the early twenties through the fifties and sixties. Life span research involves analysis of individual development as this relates to social patterns in the timing, duration, spacing and order of life events.

- Role: This refers to the overt behaviour which the individual displays, in relation to others, in establishing her position with them in terms of prescribed patterns of interaction.
- Self: This relates to an abstraction which the individual develops about the attributes, potential and activities which he or she possesses and follows. The female self-concept includes the assessment of herself as agent, interacting with the environment, and as object of her own knowledge and evaluation of the results of such interaction.
- Socialisation: This involves the processes whereby individuals learn to perform established roles, adjust to changing roles and perform new roles relating to the activities and ranks of society. Socialisation is connected with the progress of individuals over the life course and with their meeting of common needs and expectations of the social group.
- Status: This relates to a person's position in a particular interaction pattern. It can be defined as the basis for assigning valued resources, for instance, social ranking, and as a basis for differentiating social behaviour, for instance, in role differentiation.
- Sub-identity: An individual, as unique person, can be conceptualised in terms of different identities which are mutually interdependent. A sub-identity represents the individual's perceptions of her unique responses to social stimuli involving different role demands. Whereas a role can be fulfilled by different people, a sub-identity is unique to each individual.

CHAPTER I

GENERAL BACKGROUND

The feminine and masculine mind continue to be tested, analyzed, catalogued. Statistics are piling up. Yet woman's place in society, the real scope of her life, her hierarchy of values, remain undefined. Doubts, as always, are accompanied by pangs of conscience.

Elizabeth Mann-Borghese
Ascent of Woman (1963; p.179)

' is anything better for a city than that it should contain the best possible men and women?'

Socrates: The Republic of Plato
(Lindsay, 1945; p.145)

'Voilà pourquoi l'homme et la femme, sont l'individu social.'

C.H. de Saint-Simon
Science de l'homme (1858)
(Mann-Borghese, 1963; p.139)

1.1 Orientation

Analyses of world labour statistics indicate the general need for female labour participation to meet economic and social developmental requirements (OECD Observer, 1979; Gage, 1975; Sullerot, 1971; Boserup, 1970).

Women can also contribute to meeting manpower shortages currently being experienced in the Republic of South Africa, particularly at executive level. In their handling of job demands, present-day women have, in comparison to what was traditionally expected of them, to meet different and potentially conflicting life demands.

Clearer perspectives on personal and environmental requirements which may affect women in their work involvement are required to assist them in developing and utilising their full potential in the work place.

This research, which involves graduated, White, employed women aims at investigating:

- (i) the psychological implications for women of meeting multiple role demands;
- (ii) the coping approaches used by women in handling potentially conflicting personal and environmental (work and home) demands;
- (iii) the effects of dealing with multiple role demands on work involvement at different periods of a woman's adult life-span.

1.2 Objectives

The following aspects will briefly be discussed to serve as general introduction to the study:

- 1.2.1 Female labour force participation;
- 1.2.2 Female life role expectations;
- 1.2.3 Female self-concept;
- 1.2.4 Role/Self-interactions.

1.2.1 Female labour force participation

Labour force participation by women has become an important component of the South African economy. Because of the specific labour needs, White women, and in particular those with a high level of educational sophistication and skills, are particularly important to the economy of this country (Vermaak, 1975; Wessels, 1974; Van der Walt, 1976; RSA Bureau of Statistics, 1976; Smit, 1978; Van der Merwe, 1978). Married and unmarried White women of all ages already constituted 36% of the economically active White labour force in 1979 and a survey, conducted on a sample basis, indicated a further registered shortage of 17% specifically for White female labour (RSA Bureau of Statistics Survey 12, 1979). The return to paid work by older married women in South Africa is encouraged (Vermaak, 1975; Wessels, 1975, 1977) and guidance to assist women with labour force re-entry is given (Raubenheimer, 1979).

Although women possess the potential, skills and qualifications to assist and compete with men in the work place, actual labour statistics indicate that women generally tend to train and eventually mainly function in restricted work spheres (Terblanche, 1978; Wessels, 1975; RSA Bureau of Statistics, 1979; Hennig and Jardim, 1978). South African manpower needs, however, require that the educational investment made in White women should be realised (Malherbe, 1977; Joubert, 1976) through more effective utilisation of such skills, for instance, at professional and executive job levels, where manpower is at a premium. Sadie (1980)

compares the South African manager to worker ratio with that found in other industrial countries, (for instance, Japan, United States of America), and emphasises that South African figures are disproportionately high (1:42 as compared to 1:16 and 1:6 respectively for Japan and the USA). White womanpower could be seen as an available resource to alleviate currently experienced shortages at executive level. The number of White women in management positions has already increased from 5 277 in 1969 to 21 606 in 1979 (Prekel, 1980), which indicates that women possess the required skills and qualification to effectively assist and compete with men in the executive suite. It is however necessary to determine possible factors which could negatively affect the full development and utilisation of all female potential at all job levels.

It is still true today that the need for women to work is primarily economic. Divorce, widowhood or single status may force women to accept the breadwinner role, while the desire for a higher standard of living may cause married women to accept dual-role commitments (Oppenheimer, 1973; Belle and Tebbets, 1980). Women who primarily work because of interest in the work only, are a privileged minority, and often consist of older, professionally qualified people whose work experience and fewer home demands offer them opportunities to develop personal interests which their younger counterparts find it difficult to do.

It is important to recognise that woman's lack of development and upward progression in the work hierarchies are attributed to both environmental and personal factors.

1.2.1.1 Environmental factors

There are different environmental factors which may keep women from being promoted to managerial job ranks. Discrimination in the workplace becomes evident, for instance, in:

- typecasting of women in terms of "suitable" fields of specialisation;
- the underrating of past experience;
- hidden under-employment;
- discrimination against women in job training opportunities;
- differential remuneration practices; and
- discriminatory income-tax systems.

The rationale for such discrimination against women is often based on a stereotyped view of women as being too "emotional" and thus less suitable for executive positions; lack of commitment to work and a career by women; and women not being the sole or main breadwinner of the family. However, present-day realities, both in terms of the number of female managers and the increasing number of women who, because of circumstances, are forced to become the only family providers, emphasise the fallacy of such stereotyped attitudes toward female career commitment.

Marital and family demands are further environmental factors which may keep women from engaging in the achievement-directed behaviour required for promotion and for meeting managerial demands. The transfer of a husband may result in complete or premature disruption of a woman's work career, while childbearing and childrearing responsibilities can result in a "before-and-after childbearing" work involvement pattern.

Women have, however, over the years, shown an aptitude for holding down full-time jobs in addition to managing home commitments. The increasing number of married employed women and the increase in women's aspirations to succeed at higher level jobs, challenge the generalisation that women are not motivated to achieve in the workplace or that they are not career orientated (Van der Merwe, 1979; Smit, 1978).

In the final analysis, the decision to follow a career, and whether or not to be achievement-oriented in the work situation, rests with the individual, irrespective of life or work circumstances. Nevertheless, environmental factors may facilitate or hinder such achievement.

1.2.1.2 Personal factors

Socialisation traditionally influences women from their earliest years to accept marriage, motherhood and family care as their ultimate aim in adult life. The social standards and norms defining the role responsibilities of married women can affect the work role and personal achievement of married women. This is particularly true when a work role can be seen as negatively affecting their family responsibilities. Marital responsibilities are accepted as binding. Marital and family expectations and experiences can therefore influence women in their planning, development and utilisation of opportunities for professional and career development (Nye and Hoffman, 1963; Waite and Spitze, 1979; Ferree, 1979).

When women accept the dual roles of work and homemaking, they are confronted with life-styles and life-demands which differ from the demands made on a married employed man (Hennig and Jardim, 1978; Rossi, 1980). Although an occupational work role is becoming increasingly acceptable as a part of adult women's life expectations, these role demands are placed second in importance when compared to family and home responsibilities. Assuming an outside occupational role does not bring significant changes in the demands made by home and family roles, which remain the primary responsibility of the wife.

Conflict can be experienced by women when their normative evaluation of appropriate adult behaviour, including adult life role attitudes and expectations, differ from actual life experiences or personal

needs. Assuming ascribed nurturant home role demands may result in experiencing conflict when also having to deal with achievement-related work or career development demands. Career development requires increasing investment of personal resources in occupational activities and the development of work and work-related activities as a central life interest. Discrepancies between women's socialised expectations, personal needs and actual adult life demands can cause them to experience incongruence or a lack of "goodness of fit" between their various life role requirements.

Analysis of personal factors affecting female work advancement, requires greater insight into adult female role demands and the personal importance attached to different roles at different stages of a woman's life. Aggregate patterns of change in employment attitudes and behaviour do not necessarily increase our understanding of an individual woman's attitude toward employment. It must be recognised that work interest and work involvement may differ during a woman's life stages. Her involvement when she is between 19-25 years may be very different from what it is after 30 or 35. A greater measure of female "self" investment in a work role and in career development involves complex and multi-directional psychological, sociological and biological interactions. Lack of synchronisation of these processes can result in feelings of conflict with resultant feelings of alienation, poorness of life role fit and the need to develop mechanisms to cope with conflict.

1.2.2 Female life role expectations

Current theoretical and research orientations relating to vocational and career commitment typically represent a male employment pattern. Such a pattern presupposes a relatively uninterrupted period of work involvement and a hierarchical and competitive construction of employment experiences. Male adult life expectations are seen in terms of a man's role as breadwinner, whereas female adult

life expectations are seen in terms of a biological and home-making role.

Achievement, and the assessment thereof, depends on society's gender role values which differ for the sexes. In the case of men, masculine behaviour is seen to include independence, assertiveness and achievement striving. Female behaviour, by contrast, is seen to include submissive, deference, and nurturance traits (Bem, 1974; Kagan, 1964; Mischel, 1973).

Stereotypes of masculine traits (assertiveness and need-to-achieve) are evaluated positively by both sexes, whereas stereotypes of feminine traits (deference, submissiveness) are evaluated negatively by both sexes when healthy adult behaviour is evaluated (Broverman et al., 1972; Tavris, 1973). This implies a negative self-image in women who accept the negative stereotype of feminine traits and thus could affect their work role performance, particularly where stereotyped masculine traits are valued. An aspect which can affect women's work involvement is their adult life role expectation. Such expectation involves both a biological role and a social gender role.

1.2.2.1 Biological role

The biological implications of being a woman are complex, multi-directional and multi-determined (Stoller, 1968; Sherfey, 1973). The importance of women's biological role was stressed by Freud (1953) on the grounds that innate constitutional determinism served as the basis for actual behaviour. The applicability of the traditional Freudian approach to explain behaviour generally has been questioned (Lipman-Blumen, 1976; Holter, 1971).

Biological determinism in gender behaviour differences is presently again a focus of research, with particular emphasis being placed on hormonal differences between sexes and between women during different age periods (Trotman and Hammond, 1979; Goleman, 1978).

Stoller (1968, 1972) and Money and Ehrhardt (1972) accept the potential of foetal gonadal hormones to determine gender role orientation, but they also provide evidence that learning experiences are sufficiently powerful to make them the predominant force in determining core gender identity. Physical and physiological structure alone does not control female behaviour. Genetic, hormonal and environmental factors combine to establish differences between the sexes, but behaviour is also influenced by individual attitudes and values based on cultural and social norms (Bardwick, 1971; Mednick and Tangri, 1972; Maccoby and Jacklin, 1976). Although born a female, the individual becomes psychologically a woman through experiences encountered while growing up in a social and cultural milieu (Friedan, 1964; de Beauvoir, 1965). Carlson (1972), while accepting that Freudian theory failed to include advances made in biological knowledge, emphasises, however, that psychological gender differences are rooted deeper than in the socio-cultural environment.

The nature/nurture and behaviour relationships should be seen as multi-interactional processes. Bardwick (1971, 1974) emphasises that physiology causes changes in behaviour which, in turn, cause durable changes in physiology or in structure. The complex interacting processes occurring between hormonal change and behaviour of women during menstruation, fertility, gestation and menopause, are illustrated by findings reported by Al-Issa (1980), Hordern (1978), Gerdes (1979), Radlof (1975), Delaney, Lupton and Toth (1976). Bernard (1975) correctly states that we are back to the nature/nurture controversy, but, due to increased knowledge, at a more sophisticated level than in the past. Further research falling beyond the scope of this study is, however, necessary to determine which gender differences are genetically/biologically-based and which are environmentally/experientially-based.

1.2.2.2 Social gender or sex role

Stoller (1968) defines gender role as the overt behaviour which the individual woman displays, the role she plays in relation to others in establishing her position with them in terms of her own and their evaluation of her gender. Gender awareness is the personal knowledge that one belongs to one particular sex and not to the other. This awareness contributes to the establishment of a gender or sex role identity. The gender identity is developed during life through imitation and identification with various role models and through social learning experiences (Kleeman, 1971; Bardwick, 1971; Hoffman, 1972; Maccoby and Jacklin, 1975).

Gender or sex roles are universal, although their form may vary in different societies (D'Andrade, 1966). The status of women in society is related to sex role stereotypes which reflect certain assumptions about characteristics and correct behaviour to be expected from members of each sex (Buytendyk, 1968; Goldberg, 1974; Adam, 1975). Females are traditionally accepted as being docile, dependent, friendly, non-aggressive and supportive, while males are traditionally characterised by being independent, aggressive, unemotional, intellectual and dominant (Broverman et al., 1972; Kagan, 1964; Mischel, 1973). Role-related personality traits are influenced by socialisation processes based on traditional sex role demands (Block, 1973; Ellis and Bentler, 1973). A child, when born, is of either the male or female sex, but its gender role (and gender identity formation) is socially and culturally determined in terms of acceptable behaviour.

Security in a feminine identity and adherence to gender role behaviour is traditionally accepted as important to ensure a woman's psychological adjustment to life demands. Adaptation to gender roles as the ultimate criterion for mental health in present-day circumstances is, however, being questioned (Al-Issa, 1980). Appropriate behaviour limits women primarily to a nurturing

motherhood role and men to a work role. Basic to the concept of a role is its relation to a position in situations involving other people, and in its reference to prescribed patterns of interaction (Sherif and Sherif, 1956; Mead, 1934). Conventional gender role socialisation thus incorporates interaction patterns and belief systems which channel activities into areas considered suitable and proper for a particular sex. Traditionally socialised males and females learn to aspire to positions conventionally allocated to them in the social and occupational structure. This can have an effect on the educational and occupational expectations and aspirations of boys and girls, men and women.

During his or her life period an individual may be influenced by various socialisation agents (Rabban, 1950; Stoller, 1968). Initially a child's behaviour pattern is shaped by the family environment. This task is later ceded partly to the school which assists in preparing the individual for adult life. Training includes development of individual values and expectations in terms of adult reality which includes work and marriage (Steyn and Breedts, 1977). Actual work experience forms a further socialisation influence, particularly for males, and as such contributes to the character of a man's expected adult life experiences (Henry, 1971). The implications of work as a socialisation influence on female adult life is not so clear because her work involvement depends on her life situation, personal needs and aspirations. Pregnancy and motherhood can cause longer or shorter periods of interruption from paid employment. Whether the eventual return to full-time employment is anticipated or not, a pattern of discontinuity between the diversely structured roles of worker and homemaker may have implications for female personality integration. Women who repeatedly have to re-enter the occupational world of males, after completing periods of homemaking and motherhood, are each time confronted anew with gender identity insecurities (Theodore, 1971).

Although vocational aspirations of women seem to be changing (Coetzee, 1977; Wessels, 1977; Smit, 1978) relatively few women as yet aspire to function within innovative, non-traditionally sex-linked occupations (Tangri, 1972). There are several reasons for this. Traditional gender role socialisation which emphasises achievement and occupational success for boys and marriage and skill in domestic duties for girls (Rebecca et al., 1975) fosters specific values, needs and expectations among both males and females. Occupational achievement is accepted as being less important to female self-esteem than interpersonal skills, popularity and physical attractiveness. Following a career and maintaining a successful marriage, particularly where children are involved, is considered incompatible for women, many of whom consequently do not consider development of high occupational aspirations as important (Oppenheimer, 1968; Hennig and Jardim, 1978). Marriage to a man with good prospects for high occupational success may appear a more desirable and realistic route to status attainment than personal achievement in the work environment (Rosen and Aneshensel, 1978).

Basic to much of the literature on gender role typing is the assumption that adjusted individuals are characterised by behaviour which conforms to society's stereotypes of sex appropriate behaviour (Mussen, 1969) whereas deviations from such expected behaviour is accepted as relating to psychological and social maladjustment (Al-Issa, 1980).

Present-day life roles, particularly in the case of employed women, require flexibility in personal functioning to enable combining both masculine and feminine behaviour, depending on circumstances. This, in turn, requires transcending stereotyped gender role demands and developing approaches to situations which promote coping with environmental demands rather than meeting social expectations. A more detailed discussion of masculinity and femininity is therefore required.

15.

Researchers have defined the concepts of masculinity and femininity differently. Parson and Bales (1955) proposed that masculinity reflects a cognitive instrumentality and goal directedness, whereas femininity can be defined by expressive, supportive and affective responses. Bakan (1966) characterised masculinity as having a concern for oneself and one's own goals (agentic) and femininity as having a concern for the self, but in relation to others (communal). Erikson (1968) differentiated between "outer" (male) space which relates to masculine preference to build, and "inner" (female) space which relates to feminine preference to conserve. Traditionally, research into these dimensions has assumed that masculinity and femininity represent the polar ends of a continuum. Thus, high masculinity implies low femininity and high femininity low masculinity. Individuals scoring between the two polar ends of the continuum are therefore, by definition, placed in an unclear position.

The conceptualisation of gender identity according to polarities has, in recent years, been questioned (Constantinople, 1973; Bem, 1974; Heilbrun, 1976; Spence et al., 1978), particularly since research results indicated that cross-gender type behaviour could be beneficial to individual performance in changing situations and in meeting adult life demands (Maccoby, 1966; Mussen, 1969; Hartford et al., 1967; Hennig and Jardim, 1978). Jung also stated that no man is entirely masculine but that feminine elements, attitudes, intuitions (anima) formed part of every man's character. Similarly, women inherited masculine images called the animus. Jung emphasised the danger of a man's anima taking over or the animus overpowering the female psyche resulting in the man losing his masculinity and the woman her femininity. However, without recognising their inherent opposites, man and women could run the risk of incompleteness (Homans, 1979).

Bem (1974) proposed that present-day demands, in particular, require individuals to be both instrumental and expressive, both agentic and communal, depending on the requirements of the situation and the appropriateness of behaviour modalities. Bem

suggests that the androgynous person, that is the individual who is high in both masculinity and femininity, will best be able to adapt to changing life circumstances. Cross-gender behaviour can, however, be difficult for the individual who strongly adheres to, and is motivated to maintain, a self-image relating to either a masculine or feminine public image (Kagan, 1964; Kohlberg, 1966). This could result in restricted behaviour potential because the individual is not only judged by society on the appropriateness of behaviour in different circumstances, but the individual also judges himself/herself according to what is personally valued behaviour (Bem and Lenney, 1976).

Employed women, in particular, need the psychological freedom to engage in whatever behaviour seems to be most effective at the time, irrespective of its stereotyping as typically masculine or feminine, if they want to achieve in the male-dominated working world.

1.2.3 Female self-concept

There is ambiguity with regard to the concept of the "self" (Faunce, 1976). In psychological sense the term "self" has been used to refer to the self as agent or process, or as object of the individual's own knowledge and evaluation (Hall and Lindzey, 1970).

Coopersmith (1967) defines the self as an abstraction which the individual develops about the attributes, potential and activities which he/she possesses and follows. This abstraction is represented by the concept of "me" and serves as the individual's idea of herself to herself. This relates to Murphy's (1947) viewing of the self as known to the self. The individual's concept of self is formed through experiences and abstractions made about interactions which take place between the physical and social world and the self, and the result of such interactions as evaluated by the

individual. The visible object of observation and appraisal, namely the individual person, differs from the self therein that the self consists of the abstractions formed by the individual personally, about the object observable by others.

Gerdes et al. (1981) discuss different definitions of the self-concept or self-image and factors affecting the development of a self-concept. In this discussion it becomes evident that the concept "self" involves a developmental process which includes an assessment by the individual of him or herself as agent, interacting with the environment; and as object of the individual's own knowledge and evaluation of the results of such interaction.

The female self-concept can therefore be defined as the individual woman's personal view of herself in terms of her physical, social and psychological attributes and her assessment of these attributes. The individual's positive or negative evaluation of specific attributes or characteristics will relate to different experiences, or transactions, which occur during her life.

Classic theories of personality emphasise the importance to the individual of how he/she perceives others to see him/her (Mead, 1934). Coupled to this perception is the salience of the self to the individual, that is, the implications to the self of other people's reactions to him/her as person and his/her behaviour.

Effective functioning requires a realistic self-image which enables the individual to adjust his/her self-concept when necessary. An unrealistic or diffuse self-concept can result in ineffective functioning and can result in experiencing a lack of control over one's life (Brissett, 1972).

1.2.3.1 The self-concept and role demands

The individual, as unique person, can be conceptualised in terms of different identities which are mutually interdependent. Gerdes et al. (1981) discuss:

- (a) the public identity, which refers to a social position or role;
- (b) the personal identity, which refers to a sense of personal continuity irrespective of changing situations; and
- (c) an individual identity, which refers to a sense of personal uniqueness (p.71).

Each individual relates to her "self" in terms of a complex of interlocking beliefs and values. These are based on different perceptions formed in the course of a life-time's experiences of different roles, environments, and situations. These perceptions can result in the development of an individual identity and in behaviour which gives evidence of the self as she is prepared to be identified by others.

Individuals are expected to meet various role requirements for which normative behaviour may, or may not, be prescribed. The manner in which the individual fulfils the expected role requirements depends on the way in which she defines the situation. Individual behaviour can therefore be seen as a result of the reciprocal interaction which occurs between the individual's predisposition or tendency to think, react and behave according to specific situational demands and the psychological significance which such situation has for the individual (Magnusson, 1978).

Goode (1960 a+b) proposes that a role relationship can be seen as a transaction in which the individual allocates personal resources to meet various role obligations. Such allocation is influenced by rewards or penalties which the individual expects from role partners and/or from society. The degree to which a woman thus

deviates from the expected adult life role of wife and mother can be influenced by the demands of her situation, her evaluation of the outcome of her actions, and her individual identity.

Miller (1963) proposes that individuals develop different sub-identities which relate to specific roles and their demands. Whereas the role represents the social stimuli in terms of expected behaviour, the sub-identity represents the individual's perceptions of her unique responses to the social stimuli. The total self can thus be seen as comprising of various components which differ from each other, and each of which represents different aspects of role relationships.

In reacting to a situation, the individual mostly reacts in terms of the self by which she is prepared to be identified. This can, however, differ from the self as known to the self. Miller (1963) proposed that the self can be divided into three aspects, namely:

- (a) the public identity or persona which represents a compromise between the actual self and the pressures of the social situation (for instance, the professionally qualified mother who would prefer to continue with her profession but who has to give full attention to the children);
- (b) sub-identities, which relate to an aspect of the total identity with which an individual is engaged while performing in a specific role, situation, or environment (for instance, the professionally qualified woman in her relationship as daughter to her parents);
- (c) the core, which refers to the organising of different sub-identities by the self.

The size of the core depends on the measure of compatibility which exists between different sub-identities and personal needs (Miller, 1963). Each individual can have a number of sub-identities

which can be of the person's own creation, but which, in essence, relate to the roles and role demands which she has to meet.

Role and sub-identity are similar in that both have attributes which are interpreted in terms of group norms, but role and sub-identity can also differ in different ways. Whereas a role refers to specified attitudes and behaviour according to which a person is required to perform within a specific environment or encounter, the sub-identity represents a cluster of different attributes found within an individual. A role can be fulfilled by a number of people, but a sub-identity is unique to each individual. A role exerts pressure to conform but a sub-identity consists of personal traits and describes what the individual is like and how she is prepared to function and present herself.

A sub-identity is, however, limited by the boundaries of a role and the more the traits of an individual's sub-identity permits expression within the limits of a role, the more compatible the role is with the sub-identity. Where compatibility does not occur, the individual can experience conflict and a feeling of being pulled in different directions or of being restricted.

In order to understand female work behaviour it is therefore necessary to determine personality and behavioural dispositions as these interact with role demands, particularly in the context of a changing social matrix (Bandura, 1978; Mischel, 1973; Ahammer, 1973). The woman of today expects to function in terms of both ascribed and achieved roles, but, in doing so, she can expect to experience conflict. The central theme expected in the ascribed role is to be of assistance to "significant others" and meeting nurturant role demands. The central theme in meeting achieved role demands (in this case, work role) requires development of personal achievement, independence and assertiveness traits.

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The integration of sub-identities, aimed at meeting these different role demands, can be influenced by individual gender identity adherence. Gouldner (1959) emphasises that the measure of congruence between the individual's gender identity and self-concept can influence work behaviour. The importance of the self-concept and gender role adherence in relation to behaviour and the integration of behaviour demands in a work environment are borne out by research results (Mulvey, 1963; Ferree, 1979; Waite and Spitze, 1979).

Individual differences in gender role self-concept are therefore important aspects to recognise when dealing with the management of conflict experienced by employed women (Louis, 1977).

1.2.4 Role/self interactions

Adult life roles for women include biological implications and social responsibilities. Women are socialised from childhood to accept motherhood and family responsibilities. Present-day realities, however, also include the possibility of a work role and the possibility of personal achievement in addition to meeting ascribed role demands.

The interaction between biological, social and personal factors interrelate with the life stage and life experiences of women and this can influence the degree of work involvement which women are prepared to give at different periods of their lives (Neville and Damico, 1977; Putnam and Hanson, 1972). Most women want to marry and have children, and with this in mind few young women seriously invest all their energies in preparing for a career. Combining family and career demands requires adaptation of personal and social needs and demands, accepting fundamental changes in traditional life-style and adjusting psychologically to handling divergent roles. Hennig and Jardim (1978) succinctly state that employed, married women have to learn to live two lives within one life. Women are continually confronted by a dual set of inter-

related choice patterns involving work and marriage and meeting the demands of a job in contrast to developing a career. Decisions are made, recognising the demands of marital and situational circumstances and trying to integrate such demands with personal needs and values relevant to any particular period in the life-cycle.

The subjective assessment and evaluation of the correctness of one's own opinions and performance is done in comparison with other people. When discord is introduced into one's perceptions of the world and one's personal role in it, for instance by observing or experiencing events that are markedly at variance with one's own expectations, then one will attempt to reduce such variance (Baumgarten, 1955; Epstein, 1973; Crown and Marlowe, 1964). For example, the expectation of marriage at a certain age can result in withdrawal from work commitment. Similarly, the non-realisation of expected marriage, for a woman who adheres strongly to a traditional gender role, can result in conflict when the preferred role of nurturer has to be changed to an assertive breadwinner role in life. Investigators studying determinants of female career aspirations have examined psychological and environmental factors but results have been inconsistent and have emphasised the complexity of the issues involved (Tangri, 1972; Mednick, Tangri and Hoffman, 1975).

The statement that discriminatory practices keep women from achieving in the workplace can only partially be substantiated (Hennig and Jardim, 1978; Theodore, 1971; Waite and Spitze, 1979). Women themselves tend to avoid workplace problems by showing a lack of interest in policy positions, by allowing males to take initiative in professional group striving and by showing little ambition to reach high levels of individual achievement (Hennig and Jardim, 1978; Torrey, 1973; Schwartz, 1976; Spitze and Waite, 1979).

Psychological variables such as expectations, causal attributions in terms of achievement success and failure, personal control and control ideology (Sanger and Alker, 1972) all demonstrate the importance of the definition of the self in terms of personal control over the outcomes of one's behaviour. Studies on the relationship between gender role attitudes and women's achievement motivation (Condry and Dyer, 1976; Horner, 1972; Lenney, 1977), gender role and career commitment (Angrist, 1966), occupational choice (Lipman-Blumen, 1972; Mednick and Puryear, 1975), and gender role relevance of a task (Stein and Bailey, 1973), emphasise the implications of traditional gender role adherence in meeting the complex life role demands expected of women today.

The strength of the motive to achieve with regard to any activity is partly a function of level of self-investment in the activity and the expectancy of a sense of personal accomplishment which will accompany good performance of the activity. The concept of commitment (to career or any other activity) thus refers to the process through which a person becomes increasingly bound to the pursuit of a particular set of objectives (for instance, occupational objectives) (Becker, 1961), and the measure to which such objectives become a central life interest (Dubin, 1956). Identification with an occupation or career therefore refers to the social processes (experiences) through which the individual acquires a conception of herself relating to the occupational role, and the implications thereof in terms of personal values, needs and congruence with other identities which such conceptualisation has.

To achieve success in the workplace and to meet the demands made by senior or professional level work, requires that women decide on the value of their work identity in relation to other aspects of personal identity. Work commitment relates to the relative degree of importance accorded to work in relation to family and other obligations. It also involves an expectation of work continuity, regardless of financial affluence. Spitze and Waite (1979) state that women's early attitudes to work develop primarily

as a result of labour force experiences, rather than developing independently and influencing work choices. Safilios-Rothschild (1970) emphasises that the higher work ranks in a woman's value hierarchy, and the more central place it has in her self-identity, the more work-committed she is. However, the lower the work commitment the more work represents a necessary evil to be expended as soon as possible.

A woman's conceptions of herself, her behaviour and her environment are reciprocal determinants of each other. Individuals are, however, neither powerless objects controlled by their environments, nor are they entirely free to do what they choose. Each individual has therefore the opportunity to work at her own life and to limit, or extend, herself, particularly in meeting the demands of the work environment (Bandura, 1978).

1.3 Conclusions

Adult White women possess the potential, skills and qualifications to meet the specific labour needs of this country (Terblanche, 1978).

The number of economically active White women has increased considerably and a specific increase is evident in women functioning at managerial job level. Increasingly, greater numbers of women are, however, required to accept positions of higher status and responsibility, both to meet developing manpower shortages and to realise the investment made in their professional training.

The slow progression of women into positions of higher status and responsibility can be attributed to both environmental and personal factors.

Environmental factors relate to discrimination in the workplace and marital and family role demands. These are issues continually under discussion but which still need to be resolved.

Personal factors include the individual's will to progress and her success in accepting and integrating multiple role demands. The adult employed woman's life differs from that of her male counterpart in that her acceptance of an outside occupational role does not relieve her of her home and family roles.

Socialisation processes influence males and females to expect specific adult gender role responsibilities. Males expect to follow an achievement orientated breadwinner role. Females expect to follow an ascribed, nurturing, home-making role.

Career development requires increasing investment of personal resources in occupational activities and the development of work-related activities as a central life interest. Women can be expected to experience discrepancies between socialised expectations, personal needs and present-day life demands. Such discrepancies can result in conflict and a need to obtain goodness of fit between multiple role demands.

In order to understand female work behaviour and to guide women into accepting more responsible executive positions, their personality and behavioural dispositions must be determined, particularly as these interact with role demands in the context of the individual's changing social matrix.

The present research aims at investigating:

- individual differences found amongst a sample of White, graduated, employed women;
- conflicts experienced by individual subjects because of the social and biological realities of woman's adult development and roles;
- adaptation and change of work values which become evident at different stages of the female life-span.

The final objective of this research is to present a theoretical model of factors affecting female work and career commitment at different life stages.

CHAPTER II

THEORETICAL ORIENTATION

'But must we not first raise the question whether female human nature is capable of sharing with the male in all his occupations, or in none of them, or whether it is capable of some and not of others'

Socrates: The Republic of Plato
(Lindsay, 1945; p.140)

Marriage is the destiny traditionally offered to women by society. It is still true that most women are married, or have been, or plan to be, or suffer from not being.

Simone de Beauvoir
The Second Sex (1965; p.400)

Woman is not a completed reality, but rather a becoming, and it is in her becoming that she should be compared with man; that is to say, her possibilities should be defined.

Simone de Beauvoir
The Second Sex (1965; p.30)

2.1 Introduction

Research on human development has changed from an earlier concentration on childhood to a focus on change in the adult years.

Interest in the processes of change in adulthood was stimulated by the awareness that development during adolescence must be explained both by childhood influences and by influences from the larger society. Adult socialisation is affected by experiences of continuity and change which occur during the years lasting from the early twenties until the fifties and sixties.

More generally, studies on the middle years of adulthood involved males, for whom work and career commitment formed a basic life course perspective. By contrast, a workplace role was not accepted as an important life course perspective for women. Women, moving into adulthood today, can, however, expect a relatively continuous period of employment and the intrusion of job demands into the family role can result in a need for a new kind of adult socialisation and a different kind of guidance for women.

Research on adult female behaviour requires assessment of the interactions and transactions occurring between the individual and her social environment from a life course perspective. This includes assessment of experiences of continuity and change and of incompatibilities experienced between the normative systems of home and work. Both person and situation as unit of investigation must be studied (Bavelas, 1978).

The theoretical orientation of this study consequently consists of a brief discussion of:

- sociological;
- psychological;
- developmental; and
- vocational perspectives of the adult life cycle and the implications thereof for the employed female.

2.2 Sociological orientation

From a sociological perspective, the human life cycle as a whole can be described as a succession of social roles (in't Veld Langeveld, 1969; Komarovsky, 1973; Neugarten, 1972; Emmerich, 1973).

A role can be defined as "..... een geheel van samehangende verwachtingen ten aanzien van aan menselijke betrekkingen verbonden gedragvormen, die gesteund worden door en gebonden zijn aan normen en die daardoor een zekere bestendigheid vertonen" (in't Veld Langeveld, 1969; p.64).

Social behaviour is differentiated in terms of sanctioned social roles, with traditionally defined duties. Each member of organised society has to develop according to different normative role demands.

The particular roles assigned to women by society, relate very strongly to their biological role and impinge on their economic functions (Bell, 1977). Culture determines gender appropriate work tasks for men and women (Glazer, 1977) and thus contributes to the socialisation of boys and girls in terms of expected adult behaviour. Each member of organised society develops in terms of different roles (mother, daughter, worker, wife) and the individual determines the selective involvement of herself in terms of these varying role demands.

Social roles are perceived and enacted against the background of the "self" construct (Sarbin and Allen, 1968) which develops from both maturational and personal-social experiences. Integration of role expectations are influenced by the clarity, measure of consensus and congruence between personal role expectations and the expectations of others.

Sociological role theory provides a comprehensive system of relationships which can assist us in the analysis of behaviour and of attitudes. It provides a model for identifying and placing people in society and it can assist us in defining what constitutes coping behaviour in various recurring types of situations.

Role analysis, from sociological perspective, can also assist in exploring and specifying more precisely the interplay between psychological structural variables, particularly as these relate to maintaining self-identity and self-esteem during processes of social change. This is of particular relevance when analysing the less sharply differentiated present-day conceptions of masculine and feminine roles (Komarovsky, 1973) and the need for women to combine both ascribed and achieved role demands (in't Veld Langeveld, 1969). Present-day women can easily experience social marginality, that is, standing on the boundary between two groups and feeling uncertain about their status in both groups.

2.2.1 Ascribed and achieved roles

Ascribed roles are characterised by the emphasis placed on relationships with others according to socially prescribed normative behaviour, like being a mother, a wife. Achieved roles, by contrast, require personal effort and are usually obtained through training or planning which results, for example, in holding down a job (worker) and being a student.

The salient role for women is an ascribed role and the standards set for achievement in this role are more ambiguous than the standards set for the achieved role which is typically seen as masculine and worker roles. The implications for women, who also follow a work career, is that their assessment of good performance in one role may imply poor performance in the other. Because of

potentially contradictory role requirements women can become caught between two reference groups, with conflicting values and standards of self-appraisal. Consequently, a woman can either be rejected by one of the groups or be viewed as deviant within each of the role reference groups (Schachter, 1951). The duality in traditionally expected adult behaviour becomes evident in Parson et al.'s (1955) distinction of the male instrumental function and the female expressive-affective function; Bakan's (1966) agency (masculine) and communion (feminine) bases; and Erikson's (1968) "outer" (masculine) and "inner" (feminine) dimensions of personality.

During early childhood, socialisation primarily involves learning ascribed roles. By contrast, role learning in adulthood consists mostly of mastering achieved roles. Sarbin and Allen (1968) emphasise that adult role learning differs from childhood learning therein that:

- (a) The adult is motivated to learn;
- (b) Role learning, superimposed on previously learnt roles may result either in facilitation of, or interference with, present role learning;
- (c) Much of the learning of achieved roles will have occurred prior to occupying an adult life position, due to anticipatory socialisation (p.546).

The child, in learning ascribed behaviour, is guided by age- and sex-appropriate behaviour which, for girls, is oriented towards nurturing and a less assertive style of behaviour. Boys, by contrast, are encouraged to follow independent, assertive and achievement orientated behaviour approaches (Hoffman, 1977).

2.2.2 Social status

The social stratification system ranks individuals and groups in terms of their value to society. Traditionally, this stratification places males in more highly valued roles (and consequently higher status) than females. A possible explanation for accepting that males occupy more valued roles may lie in their historic roles as warriors and hunters, roles not accessible to women because of their childbearing and childrearing functions. Men's positions in resource-acquiring and resource-protecting roles also led to dominance hierarchies to persist after technology had obviated the need for such differentiation and stratification of roles.

Women, when comparing their performance in a particular social context, have to evaluate socialisation implications and relate demands to actual behaviour. Rosow (1974, 1976) differentiates and classifies different roles in terms of the status they are accorded in the social hierarchy. Two role types are particularly relevant to women. These are institutional and tenuous roles.

2.2.2.1 Institutional roles

These roles are linked with definite status positions or attributes which serve as criteria for assessment of culturally accepted behaviour. Thus, being a woman reflects specific cultural expectations as regards acceptable behaviour. Women are expected to behave as prescribed by social norms and can, in turn, expect specific behaviour from others in society because of her female status. Further examples of institutional roles are: being a worker and being a parent.

2.2.2.2 Tenuous roles

Tenuous roles are linked to definite social status, like being a woman, but they are also coupled to vague and unsubstantial criteria which provide few normative guidelines for behaviour. Thus, being an unmarried woman, being aged, being divorced or widowed are known life roles but because of vague or conflicting criteria, individuals fulfilling these roles have few guidelines to assist them in shaping their personal activities and life patterns.

Erikson (1959) emphasises the need for clear social definitions and expectations for determining self-definition. Where status ambiguities are experienced, an individual can, for instance, feel uncertain and insecure. This can negatively affect major decisions about future role behaviour.

Certain occupations are considered compatible with the role and status of being an ideal woman. In nursing, teaching, and secretarial roles an individual can be seen as both a successful woman and as a successful person. Occupational achievement in "less womanly" occupations can, however, require independent and assertive behaviour in contrast to the dependent and acquiescent behaviour expected of a woman. This can cause a dilemma for a woman if she adheres more rigidly to the traditional differentiation and expectation of gender roles and gender behaviour.

Although marital status and fulfilling the roles of wife and mother is still a top priority for most women (Bernard, 1974; Komarovsky, 1973), present-day society is moving toward less sharply differentiated and more symmetrical and partnership conceptualisations of masculine and feminine family role expectations. With time, this may result in new adult life roles (Hoffman, 1977), as well as in the definition of new coping strategies for women dealing with multiple role demands.

2.2.3 Gender role differentiation

The perpetuation of traditional gender role differentiation in terms of masculine and feminine behaviour has, in recent years, been questioned (Constantinople, 1973, Spence and Helmreich, 1978; Bem, 1974; Heilbrun, 1976). Most of the studies done to differentiate between masculine and feminine behaviour have focussed on gender roles as reflected in attitudes or ideology instead of on the self-concept or trait measures of masculinity and femininity (Mednick, 1979). Gerdes (1972) and Gerdes et al. (1981) emphasise that masculinity and femininity can be accepted as attributes of how people meet different role demands. Subtle differences in role fulfilment may become evident in the behaviour of men and of women because of their attributes of femininity and masculinity. These differences can affect role preferences and role priorities as well as style of role fulfilment. Traditional conceptions of masculinity/femininity were reflected in test construction based on the assumption that masculinity and femininity represent the negatively correlated ends of a unidimensional continuum. High masculinity thus implies low femininity and the absence of masculine characteristics implies the presence of feminine characteristics. Individuals scoring between the two polar ends of the continuum are therefore in an ambiguous and unclear position. They are in conflict with the traditional view that the ideal or healthy personality is characterised by a secure sense of identification with one's gender identity. In principle, and in practice, it is, however, possible for a healthy individual to give evidence of both masculine and feminine characteristics in meeting the demands made by different roles and situations (Bem, 1974). Masculine and feminine traits and behaviours can co-exist and individuals may need to be encouraged to be both assertive and yielding, thus masculine and feminine, depending on the situational appropriateness of such behaviour (Bem, 1974; Heilbrun, 1976). This is particularly relevant for persons confronted with the demands of raising children in single parent families. It would seem that role

innovativeness and creative behaviour also relate to the degree to which individuals have overcome rigid gender-typing (Helson, 1974). Individuals (both men and women) who give evidence of appropriate masculine and feminine tendencies in their behaviour have been labelled "androgynous". Research results (Bem, 1974; Block, 1973; Spence and Helmreich, 1978) indicate that androgynous, as compared to gender-typed individuals have a broader repertoire of behaviours appropriate to a variety of situations, and a wider range of competencies. Handling present-day life roles, particularly at executive level, requires flexibility in personal functioning, hence requiring the combination of the best of both the masculine and feminine, and demands transcending rigid gender role stereotyping.

This new approach to gender role functioning has stimulated research in terms of the development of a potentially freer society where individuals are given the opportunity to deviate from stereotyped roles and to express both their masculine and feminine qualities. Counselling to meet new and different gender roles is therefore accepted as an important new area of research (Komarovsky, 1973). Although gender roles are perceived and internalised during the first few years of life (Kleeman, 1971), research results indicate that they are not formed permanently at that stage. Gender role attitudes can be adapted to meet changing role demands (Moreland et al., 1979). To achieve such adaptation and to utilise a psychologically androgynous gender role approach depends, however, to a large extent on the capability of the individual to deal with changing, unclear role demands and to maintain a personal sense of security while doing so (Komarovsky, 1946, 1973; Brim, 1976; Angrist, 1969; Bardwick, 1971; Babl, 1979; Mednick, 1979).

Adapting to changing role demands also requires that a woman should be viewed as an organismic entity, capable of interacting with her environment and capable of change throughout life, in contrast to viewing her and her behaviour in terms of antecedent-consequent relationships.

2.3 Psychological orientation

Traditional explanations of human behaviour have proposed unidirectional causal models emphasising either environmental or internal determinants of behaviour. Present-day perspectives that psychological functioning involves a continuous reciprocal interaction between behavioural, cognitive and environmental influences place a new emphasis on the self as regulatory system in terms of personal behaviour.

This is not a new approach but aligns with Murphy's (1947) viewing of the individual as endowed with a personal inner world as well as with the objectively observed, interacting world in which it is embedded. Individuality, therefore, is not individuality of the the organism but of the organism in interaction and transaction with the environment.

A general analysis of personality theories shows a differentiation in terms of the following:

- (a) theories concerned almost exclusively with the individual;
- (b) theories emphasising external and, in particular, social influences on the individual, and
- (c) theories emphasising the interaction which occurs between the person and the external situation.

Each theory aims at describing individuals in terms of its own perspective of what human behaviour encompasses.

The present study is based on an interactional approach. Hence, the emphasis is on:

- the evaluations made by the individual of the interactions taking place between her physical and social world;
- her personal concept of self (formed through previous experiences); and
- evaluation of results of present behaviour in regulating future behaviour.

2.3.1 Theories stressing individual personality

Individual personality theories refer primarily to the individual and tend to minimise social or environmental events external to the individual. Such theories therefore emphasise internal dispositions, be it as needs, traits, complexes, which describe the individual as complex, but in relative isolation from his or her environment. Causes of individual behaviour are discussed in terms of traits, needs, motives, self-images, which are seen as dispositions determining behaviour. Most individual personality theories suggest that personality is shaped at an early age and that adult behaviour is guided predominantly by this relatively stable personality. Childhood is thus accepted as being a critical period for the development of adult character. Although recognising environmental influences, individual personality theorists are primarily interested in how people, as individuals behave. This interest serves as basic premise underlying personality tests which also facilitates the determination of individual differences. Personality is seen as a relatively fixed entity, which is influenced more by enduring traces of previous experience than by current interactions with changing situations. Individual conflict can therefore be seen as a struggle with personal motives rather than as a result of conflict between the self or the experienced social environment. Human behaviour is explained in terms of structures and processes contained within the individual.

Theorists who represent the individual personality approach are, for instance, Freud, Murray, Eysenck and Cattell.

2.3.2 Theories stressing environmental influences

Personality theories emphasising the influence of external and social influences on behaviour consider the individual to be continually open to her or his environment and to be influenced by it. Most social theorists use concepts which describe the individual in terms of drive, cognition, response, but these concepts serve primarily to explain how the environment influences the individual and how the individual reacts to the environment. Social personality theories therefore focus on the individual in her relation to the social environment and only rarely on qualities intrinsic to the individual. Differences observed between individuals are ascribed to differing social experiences. Nevertheless, individuals are accepted as having certain basic personality characteristics serving as a set of principles according to which the individual interacts with a particular situation, such as responding to reinforcement, learning by observing others, restructuring the environment into a patterned whole. Theorists representing this approach are, for instance, Horney, Sullivan, Miller and Dollard, and Bandura.

Bavelas (1978) proposes that individual and environmental theoretical approaches differ on the following points.

- (i) Whereas individual theorists are interested in how the individual behaves, irrespective of the situation, social personality theorists are interested in how people in general behave depending on the changing environment;
- (ii) Although all personality theories acknowledge the influence of the environment on human behaviour, this influence is not always equally clearly spelt out. The individual theorists are primarily interested in the individual and less interested in his environment. The social theories in general accept the individual as being a product of the society in which he or she lives. One's personality is accepted as being shaped more by environmental and social circumstances than by biological factors;

(iii) Individual theorists propose that adult individuals are inherently different from one another, because of environmental influences operating on the personality as it develops, resulting in highly personal permanent adult characteristics. By contrast, social theorists propose that variations in adult behaviour are the result of changing situations which influence individual behaviour throughout life. Whereas individual personality theory predicts stability in personality, social theory emphasises and predicts adult personality adaptation and change;

(iv) Individual personality theories therefore assume that an individual's behaviour is fairly general across situations, whereas social personality theories assume that behaviour is more specific to a situation.

2.3.3 Interaction theories

Individual and social theorists have used different research methods to test their theories. Mischel (1968), in reviewing personality research approaches, questions the lack of consistent and satisfactory reliability and validity of results obtained by both approaches. Personality research has, furthermore, been questioned, particularly in view of the fact that situational factors may influence the individual's behaviour (Endler, 1973). This led to the proposal of a third kind of theory of personality, namely the interaction personality approach (Ekehammer, 1974). Basic to the interactionist approach is the suggestion that both person and situation, as they interact, should be regarded as the proper unit of study of personality and human behaviour.

More recent research therefore has directed attention to both the importance of the personal dispositions and of situational factors, and to the interaction between them as they affect individual behaviour (Pervin, 1968; Bowers, 1973; Ekehammer, 1974; Endler and Magnusson, 1976; Mischel, Ebbesen and Zeis, 1973).

Magnusson (1976) proposes that behaviour develops in a continuously on-going, reciprocal, person-situation interaction process, with some situations being more psychologically loaded than others. Rausch (1977) also emphasises that persons and situations can be conceived as bounded systems, in the sense that each system can be described in terms of its own structures. Each system can also be thought of as being independent in terms of its internal relationships. According to this conception, interrelationships between the systems are implicit. Individuals are, however, embedded in broader structures than a given situation, namely in individual life situations, life patterns and social institutions and milieus.

A central element in the interaction process between the organism (the individual) and the environment, relates to the mediating process whereby the individual selects, interprets and treats situational cues. This is done according to a frame of reference based on stored information, including past experiences, knowledge, values, attitudes, and behaviour can be seen as deriving from both substructural and boundary relationships. The "self" interacts selectively with different situations according to a conception or identification of the situation by the self, which specifically relates to some significant class of social situation or social encounter. Rausch (1977) emphasises that meaning, in terms of mode of behaviour, must be accepted as being emergent and as continually evolving from different person-situation interactions and relationships. Wohlwill (1970) also reminds us that behavioural development does not occur in isolation or in bits and pieces. It is a simultaneous development of different dimensions including biological, social and personal experiences and the interaction between them.

An individual's perception of his/her competence at different life stages, and the frame of reference for such evaluation, together with feedback from the environment, all contribute to the development of a self-concept which guides the individual in handling

different situations. Research therefore needs to take cognisance of both the individual's personality as manifested at any given time, and of the environmental demands of that particular time.

The orientation adopted for the present study is that the individual is a dynamic organism interacting with, and cognitively assessing, the environment. "A person is a structured organism-environment field, each aspect of which stands in dynamic relation to each other aspect. There is organization within the environment, but it is the cross-organization of the two that is investigated in personality research." (Murphy, 1947, p.8).

Bandura (1978) also emphasises that research should look at human beings in their capacity to interpret reality and with regard for their awareness of themselves as interpreters. The concept of "self" therefore relates to a composite of traits, thoughts, feelings, experiences, expectations, all of which constitute the individual's awareness of who and what she is; a conscious personal perception of abilities, status, role, needs and expectations. Freud's (1953) concept of ego, relating to the self as distinguishable from other people and serving as the core or centre to which all psychological activities and energies are referred, is accepted, although Jung's adaptation of the concept is preferred. Jung stressed that whereas Freud saw ego-functioning as largely unconscious, he, Jung, preferred to conceptualise the ego or self as a structure involved in harmonising the basic instincts of man with his spiritual and social heritage (Homans, 1979).

The proposal by Miller (1963) that the self can be divided into three aspects (see Chapter I, page 17) with a "core" which assists in organising different sub-identities of the self is relevant. The core of the self thus involves personality traits, sub-identity needs and values which can either be integrated or conflicting.

Women can, for instance, experience a degree of integration between the sub-identities of being a woman and being a student because academic achievement by a woman is culturally acceptable. Studying is also often accepted as interim phase prior to marriage or as a safeguard for economic survival in case of divorce, widowhood, or remaining unmarried. In recent years, an occupational sub-identity has also become evident for women in that it has become accepted that women, prior to marriage or starting a family, will function in some kind of a job. The development of a career sub-identity differs, however, from a work sub-identity. Career development involves a long-term internalised work role conception requiring purposeful and individual efforts to succeed (Levinson, 1978 (b)). Such purposeful needs to achieve may conflict with the anticipated interruptions of a work life, in order to fulfil the ascribed role of marriage and homemaking. A woman with a sub-identity adherence to the stereotypes of feminine personality and feminine roles will experience difficulties in accepting the purposeful and assertive role demands required for work career development. Research results typically show that women, including professionally trained women, tend to relate to a "job" instead of to a "work career" (Theodore, 1971; Hennig and Jardim, 1978).

Because behaviour is assessed in the context within which it is embedded, it is necessary to assume some structure-function perspective which will enable assessment of how people differ from one another and within themselves over time, and to assess just what it is that changes. Looft (1973) suggests that attention be centered upon changes which take place within individuals, not between them. For example, ipsative research may investigate interrelationships among attributes which may change with age, or changes in the hierarchical organisation of the needs, values and expectations of the individual self.

In a woman, behaviour needs to be constructed and reconstructed to meet changing role demands. Neugarten (1969) and Ahammer (1973) stress that social expectations regarding age-appropriate behaviour affect an individual's interpretation of events. Timing of behaviour and changing ascendencies of needs may mould women's developmental life patterns (Baruch, 1967). Marriage and work interests interact and affect career involvement of women at different phases of their adult life (Eyde, 1962), which may account for differences in vocational interest found both between women and within women taken over time (Levitt, 1971).

Harmon (1970) states that the predictive value of career orientation of female adolescents and college students can seriously be questioned and this is in line with Lemkau's (1979) assessment that no single constellation of personality and/or background factors emerges as consistently characteristic of the woman who pursues a non-traditional career.

2.3.4 General theory of behaviour

The fundamental objective of all personality theories is to develop a general theory of behaviour. This is a complex objective.

New models to guide future research in terms of an interaction approach are required because, although an impressive number of diverse and complex personality theories exist, contemporary personality theory places the individual as purposive organism less centrally today than was the case thirty or forty years ago (Hall and Lindzey, 1978).

The self-concept which is accepted as important in most personality theories, is conceptualised as being either a group of processes that serves as determinant of behaviour or it is conceived of as a cluster of attitudes and feelings which the individual has about him-or herself. The interaction approach serves as intermediate

conceptualisation and asserts that the individual's dispositions or traits influence his/her assessment of the situations which are experienced and the stimuli in the environment to which attention is given. A significant role is therefore assigned to both situational variables and to traits and dispositions.

In an assessment of female work behaviour, the "self" as purposive organism, interacting with a changing environment, is analysed. Theories of socialisation and sex role development exist (Emmerich, 1973; Kohlberg, 1966; Mischel, 1968, 1969; Mussen, 1969). Dimensions still relatively unexplored in these theories are gender role identity, internalised normative belief systems as they regulate gender role behaviour, and the influence of context upon gender role norms and behaviour.

Research into female gender role identity and its implications for the occupational role of women is of particular interest because of the current redefinitions of gender role differentiation (Bem, 1974; Constantinople, 1973; Spence and Helmreich, 1978).

Since theories of socialisation make assumptions about the nature of the organising processes extending over time, age comparisons based on cross-sectional and/or longitudinal data can make important contributions toward developing a theoretical framework. The present study aims at investigating gender identity and aspects of personality, and their relationship to life situations and work experiences, in order to derive hypotheses relating to individual differences and career commitment of graduated, White, employed women. Transitions that occur in a person's life, which include changes in role and life setting, either as a function of individual maturation or because of events experienced during the life cycle, need to be recognised and taken account of. This, in turn, requires a life-span perspective of adult female development and the factors affecting it.

The present study is of moderate scope and includes women of cross-sectional age groups. The aim is to produce a mini-theory which may guide future research into aspects affecting female career commitment.

2.4 Developmental orientation

In recent decades, research on behavioural development over the entire life-span has proliferated (Baltes, 1979). For theoretical, practical and methodological reasons a systematic developmental psychology of adulthood, based on empirical findings, does not, however, as yet exist. Life-span developmental psychology is a theoretically based orientation to human behaviour and the study thereof. However, some research based on "life stages" does exist. These theories divide the course of adult development into several phases, initiated by physical or biological changes which are accompanied by psychological changes and which are marked by "age-specific" typical crises. These theories are also distinguishable in terms of the emphasis they place on either the individual or on environmental influences. Two perspectives which can be identified are a normative-crisis model on the one hand, and a timing-of-events model on the other hand.

2.4.1 Jung (1931)

Early conceptualisation that life follows identifiable stages came from Jung in 1931. He emphasised the need to adapt to a changing personal environment, particularly in the process of aging and in experiencing old age. Jung accepted the "self" as being the midpoint of personality. Before the "self" can emerge however, it is necessary for the various components of the personality (the anima, animus, persona, shadow) to become fully developed and individuated. For this reason, he proposed that the archetype of the self does not become evident until the individual has reached middle-age (Hall and Lindzey, 1978).

2.4.3 Erikson (1950)

Erikson proposed a different type of life-span development (1950) emphasising the existence of developmental stages of life. Everything that grows has a ground plan, with different parts having its time of special ascendancy until all parts have risen to form a functional whole (Erikson, 1968, pp.32/92).

Erikson describes the whole of human development in terms of eight distinct sequential stages. These stages are called infancy, early childhood, play age, school age, adolescence, young adulthood, adulthood and mature age. Each of these stages has a central issue which is seen in terms of a polarity of a positive against a negative solution, representing a choice or a crisis for the expanding ego. Corresponding to the eight age groups, the following central issues are defined: trust versus mistrust; autonomy versus shame and doubt; initiative versus guilt; industry versus inferiority; identity versus identity diffusion; intimacy versus isolation; generativity versus self-absorption and integrity versus disgust, despair. Erikson stresses the importance of a person finding his "identity" particularly in the context of his historical and cultural situation involving interpersonal commitment and moving from dyadic to broader interpersonal levels. The task of identity formation is associated with late adolescence and early adulthood, and Erikson suggests that the resolution of the female identity crisis occurs after the choice of a mate has been made.

2.4.4 University of Chicago: Neugarten (1964,1969) Havighurst (1973)

Further approaches to life-span studies accentuating the environmental, social and cultural influences on the structure of life and personality are proposed by researchers like Neugarten and Havighurst. Neugarten, who co-ordinated the University of Chicago research on the Kansas City Study of

Adult Life, concludes that some changes in adult personality are to be interpreted as developmental but others are to be interpreted as the result of situational influences.

Havighurst (1973), who also subscribes to this view, theorises on life cycle phases in terms of dominant concerns or developmental tasks which only come into independent existence at approximately ten years of age.

Dominant concerns follow a sequence of becoming a person in one's own mind; focusing one's life; collecting one's energies; exerting and asserting oneself; creating a new life-style; deciding whether to disengage, and how; and, finally, making the most of disengagement. Each of these tasks are roughly divided into ten-year intervals.

2.4.5 Pressey and Kuhlen (1957)

An initial attempt was made by Pressey and Kuhlen to integrate processes of interaction between the individual and his or her environment, to enable some assessment of behaviour and behaviour change over the life-span to be done.

They approached the study of the life-span from a behaviouristic and statistical point of view. They assembled data from tests and other measurements regarding growth, change and decline in different areas of human development from birth until death. Their research is based on the contention that a life-span perspective should be a basic mode of viewing almost every phase and topic in psychology. Personality is a totality which cannot adequately be appraised in childhood and youth because different phases or types of personality may be appropriate at different ages (p.2). Aspects investigated by them include abilities, tasks, achievement and dynamic and social development. Analysis was also done of changing motivation and emotional development during the life-span, life interests, satisfactions, interpersonal activities and heterosexual development. Pressey and Kuhlen

also emphasised the need to recognise environmental changes taking place which affect individual feelings of security and require adult life planning. Although citing empirical data on many aspects, the authors do not, however, attempt to formulate developmental concepts to guide further development of theory. Further attempts to integrate both individual and environment in terms of an interaction approach is to be found in Thomae and Levinson's research.

2.4.6 Thomae (1968,1979)

Thomae (1968) tries to integrate a behaviouristic and quantitative approach with a more comprehensive viewing of the individual within his/her world. He conceptualises life in terms of thematic units involving specific need/press situations as proposed by Murray (1938). Thomae distinguishes between twelve basic themes of life: namely, active social conduct; external appearance and prestige; social adjustment; search for relaxation; the need to be of service to others; continuity in personal existence; curiosity and the need for experience; passive social behaviour; the need for independence; freedom to make one's own decisions; the drive towards activity and change; the wish to conform with social and religious conventions; and the need for aggressive self-assertion. He stresses that in studying human life, research should aim at determining and defining meaningfulness as related to personal experience. Thomae defines meaningfulness as the personal significance attributed to certain goals and a person's interpretation of whether what he or she is doing or experiencing is meaningful. Although accepting that such interpretation is entirely subjective, Thomae emphasises that "Eine Psychologie, welche an dem Prinzip der Gleichrangigkeit aller individuellen Sinnwelten festhält, muss deswegen die Notwendigkeit der sozialen Überformung dieser Mikrokosmen der Sinnerfahrung nicht übersehen. - Vielleicht sollte die Psychologie die sich ein halbes Jahrhundert lang mit unterschiedlichem Erfolg bemühte, das Individuum an die Gesellschaft Anzupassen, sich mehr und mehr auf die Aufgabe besinnen, die Gesellschaft 'individuellen welten' anzupassen" (Thomae, 1968, p.569).

Thomae accepts the value of Havighurst (1973) and Neugarten's (1972) conceptualisation of adult life cycle behaviour as being defined by a sequence of changing social positions with role theoretical implications (1979, p.290) but he emphasises the need to define the life-span of an individual as a sequence of interactions taking place between different aspects of time and behavioural change. Thus, the ordering of biological, social and psychological events in a life cycle should serve as frame of reference in studying developmental change occurring in the individual. Chronological age as such does not appear to be an adequate criterion for organising research and theory in this field and Thomae suggests that "change profiles" relating to, for instance, "social time" (Neugarten and Datan, 1973) and "psychological time" (Baltes and Goulet, 1971; Buss, 1973; Thomae, 1979, p.308) and the conflicts, stresses and problems relating to the required "change profiles" need further investigation.

2.4.7 Levinson (1978)

Levinson (1978 a, 1978 b) and his colleagues proposed a developmental theory of psychological periods occurring during adulthood relating to adult roles, life structure and a "dream". For Levinson, the concept of "life structure" is central. Adult development is seen as the evolution of the life structure, which is composed of the external socio-cultural world in which the individual lives and participates in terms of various roles, and his/her experience of these roles as manifested in observable behaviour and as it is experienced by the individual internally or even subconsciously. Such life structure does not remain static but changes according to a sequence of alternating stable and transitional periods. Time periods for stable and transitional periods are variable and can be from four to five years or from six to eight years. Whatever the nature of a man's "dream", the individual has the task of giving it greater

definition and finding ways to live it out. Levinson therefore questions the notion of "choosing" an occupation. He sees this idea as being too narrow and superficial because the conceptualisation of an occupation is formed through a complex, social-psychological process that involves struggles experienced within the self and between the self and the external world. Levinson also emphasises the need for men to experience the living out of both the masculine and feminine aspects of the self. A home and family environment offers the man the opportunities to develop the more nurturant (feminine) dimensions of the self.

Missing in Levinson's studies on adult development, are women. According to him, women go through the same developmental periods as men but in partially different ways that reflect differences in biology and social circumstances. These differences are, according to Levinson, real enough to merit study of female development as a separate research field.

2.4.8 Gould (1972, 1975)

Gould (1972, 1975) also investigated the manner in which the passage of time influences the actuality of experiences or events during the adult life-span. This research aimed at highlighting inherent comparable subjective experiences of groups of age peers and he describes his results as "a description of a sequence of process fluctuations that define the posturing of the self to its inner and outer world over time" (1972, p.531). He sees adult life changes as related to a process of growth toward self-tolerance. Each role in life can lead to two opposite results in a change process. A role can be an opportunity to come to a more comprehensive understanding of oneself in action, or a role can become a definition of the self that does not involve the self as a complex being. As an individual one has to choose one's life direction by achieving greater tolerance

toward oneself. Tolerance requires gaining insight into personal feelings, changing beliefs about the self when interacting with stimuli from the environment and in changing personal expectations.

2.4.9 Sheehy (1977)

The implications of external events are also emphasised by Sheehy (1977) who states that although age-linking is consistent with the findings of Jung, Erikson, Levinson, and Bühler, it is also assumed that each of us goes through adult life and personal development with our own unique timing - the reason being our selective focusing on what, for us, are significant external events.

2.4.10 Conclusion

Distinctive adaptive tasks (life events) become salient at different periods of life (Brim, 1966; Erikson, 1950; Neugarten, 1969), but these tasks are likely to have different implications for the sexes. Biological, social and psychological events in the female life cycle must be recognised when studying developmental change occurring in different individuals, particularly changes which occur in female career orientation. Holland's theory of vocational choice (1973), for instance, proposes that both men and women tend to choose occupational environments congruent with their personality. Although most young women intend to work for a portion of their lives (Parelius, 1975), they differ in the relative importance they attach to their occupations. To make theories of career development more relevant for women, reasons for variation in women's career orientation must be better understood. This requires a clearer understanding of the relationship between the need to achieve and gender role identity as these relate to significant life events, including work as a life event.

2.5 Vocational orientation

Paid employment forms part of the lives of the majority of adult men, but it has only recently become part of a large and ever-increasing proportion of women. The psychological implications of work for women are, however, still unclear and may be affected by the normative expectations held by both sexes that women's occupational interests may be secondary to family roles.

The concept of vocation can be accepted as being synonymous with "occupation" and relates to the preparation for, participation in, and retirement from work (Super, 1957). Vocation is also psychologically accepted as the behaviour of individual persons in terms of their conception of and involvement in work. Generally speaking, vocational choice is seen as a process rather than as a single event. This process continues over years and builds on the individual's knowledge of his/her abilities, aptitudes, attitudes, interests and achievements. This type of information is crystallised into a self-concept which guides the individual in dealing with the occupational realities of adult life. The vocational self-concept of adult males can be seen to constitute the central core of their personality in that it permeates their inner world of thinking and meaning. The self-concept which a woman has of herself, however, relates to different roles and to the perception she has of herself performing in different types of situations, such as in her work role and family role.

Korman (1970) proposes that work behaviour will differ according to the individual's feelings of self-perceived competence and that successful task behaviour will be affected by the salience and consistency of the individual's belief system and job demands. Korman, with his self-consistency theory, emphasises that any theory of motivational processes must include the characteristics

of the organism, both innate and learned, as a significant variable affecting behaviour arousal and direction (Korman, 1974). He states that work environments characterised by hierarchical authority structure, and including routine activities, will, for instance, encourage the development of low self-esteem. The "structural imperatives" of jobs (Miller et al., 1979) which include job uncertainties like being held responsible for things outside one's control, and job pressure like frequency of time pressures, seem to affect diverse aspects of psychological functioning of women, including self-conceptions, social orientations and even intellectual functioning (p.90). The conditions of adult life, including work conditions, are important determinants of psychological functioning in both men and women, although maternal and marital responsibilities may cause women to deal with adult life demands differently from men.

Researchers, studying the determinants of women's career aspirations, have examined a variety of psychological and environmental factors (Tangri, 1972; Mednick, Tangri and Hoffman, 1975). Miller et al. (1979), in studying the relationship between work and the psychological functioning of women, state "The evidence we have presented indicates that employed women's conditions of work are meaningfully and substantially related to their psychological functioning. We believe that these relationships result not only from the selective processes by which women enter into jobs that meet their own and their employers' requirements but also from the powerful effect of women's work experience on their self-conceptions, social orientations and even intellectual functioning" (p.90). They propose that there is a continuing interplay between job and woman in which job conditions both affect and are affected by a woman's psychological functioning. This may be caused by women's life circumstances or work preferences and the authors state "..... we cannot be certain that the youngest and oldest employed women do not react to their job conditions differently from the main body of employed women" (p.89).

Condry and Dyer (1976) and Mednick (1979) are, however, among the few researchers who have directed attention to the extent to which barriers to women's achievement are internally and/or externally based. As Mednick (1979) states, "Ideally, the relative effects as well as the interaction of personal and external factors should be examined and are, in fact, necessary for the development of successful educational, vocational counseling and professional programs." (p.4)

Bernard (1975) states that it takes two research streams to supply the knowledge of the life cycle of women today: one dealing with the role of mother, and one with the role of worker (pp. 9 & 101). Richardson (1974, 1975) also emphasises the need to recognise and deal with the split between women's work in the occupational structure and their involvement in home and family responsibilities. The need for women to integrate their childbearing and childrearing roles with a work and/or career role is a complicating issue in attempts made to conceptualise the different dimensions of female career development.

The analysis of vocational choice behaviour can be conceptualised as either occurring at a given point in time (trait and factor approach) or as a process that occurs over time (Beilin, 1955) and which follows a developmental pattern emphasising the processes related to choice rather than the actual choice itself.

2.5.1 Vocational behaviour at a given point in time

Conceptualisation of vocational behaviour as occurring at a given point in time and being based on matching personal characteristics with characteristics required by occupations, have been developed by Roe (1956) and Holland (1966, 1973).

2.5.1.1 Roe (1956)

Roe developed an extensive theoretical formulation to explain how early childrearing patterns and interpersonal family relationships influence an individual's choice of occupation. Based on their personality development during early childhood, individuals prefer to follow either person or non-person orientated occupations. Roe does not, however, allow for personality change during adult years which could affect occupational choice and change.

2.5.1.2 Holland (1966)

Holland (1966, 1973) proposed a comprehensive theoretical model involving six basic personality types and six corresponding occupational environments. Holland (1973) provides a model to indicate the degree of similarity to be expected among types. He postulates that persons choose occupational fields which they perceive as similar to their predominant personality types. These types are defined according to responses on questionnaires which involve a combination of actual intelligence and a person's evaluation of his own ability. Holland's (1973) theory does not accommodate the role of gender in vocational behaviour although Holland does accept that gender differences may have an influence on vocational behaviour. Holland's theory fails to take account of ways in which individual change might occur over time or of how different personality types may originally have developed.

In recent years, the emphasis in vocational psychology has shifted from vocational choice to vocational development, thus from choosing an occupation to developing a career. A static matching approach of choice and adjustment, as proposed by Holland, has been replaced by the more dynamic developmental approach.

2.5.2 Vocational behaviour as process over time

Theories of vocational development which accept such development as a process occurring within individuals over time are the ego development theory proposed by Ginzberg, Ginsburg, Axelrod and Herma (1951); Super's (1957) theory on self-concept development and self work congruence; and Crites' (1969) theory of work adjustment and overall adjustment and satisfaction in life.

2.5.2.1 Ginzberg, Ginsburg, Axelrod and Herma (1951)

Ginzberg et al. (1951) differentiate between three developmental stages, namely: the fantasy stage ($\pm$ 11 yrs); the tentative stage (11-18 yrs); and the realistic stage (18-20 yrs). They propose that the maturation of ego processes underlies and accompanies stage specific progression. Ego processes involve, for instance, reality testing; gratification delay; development of time perspectives and the ability to make compromises. Ginzberg (1972) recognises that vocational development occurs over the adult life-span and that people can change direction in their efforts to achieve the best fit between themselves and their work environment, but no further stage model is proposed to describe such change.

2.5.2.2 Super (1957)

Super (1957) also emphasises the importance of an individual's viewing of the self in terms of a career orientation. Childhood experiences are seen to influence such a view of the self and during adolescence a vocational self-concept becomes important. Such a vocational concept is defined as the individual's viewing of the self in relation to the world of work and in relation to choosing an occupation which is perceived as congruent with this vocational self-concept

Super's stages of development are similar to those of Ginzberg except that Super's model attempts to cover the entire life-span. Five stages are identified, namely: growth (childhood and early adolescence); exploratory (adolescence and early adulthood); establishment (early adulthood to middle age); maintenance (middle age to retirement); and decline (following retirement). Research based on Super's theory has focused on the construct of vocational maturity which Super et al. (1974) defined as how well a person progresses along a vocational developmental path in comparison with peer groups. Vocational maturity is specifically viewed in terms of coping behaviours required in order to accomplish developmental task demands. Critical dimensions of vocational maturity in the exploratory stage would, for instance, be a sense of planning one's life, exploring the work field, knowledge about the self and occupations, the ability to make decisions and a reality-based orientation. Although research results indicate the concept of vocational maturity to have promise in assessing the developmental progress of young people (Jordaan, 1974, 1977), alternative models of vocational "maturity", applicable to adult stages of development, are required. This is particularly true in relation to the vocational development of women (Lo Cascio, 1974; Richardson, 1974; Jordaan, 1977).

2.5.2.3 Crites (1969)

Crites (1969) states that decisions about work are not only central to the awareness of one's emerging identity in adolescence but also continue to have a significant impact in adulthood. Crites developed a comprehensive classification scheme based on aptitudes and interests of individuals to assist and guide them in dealing with adjustment problems, problems of indecision, generalised inability to choose a career and a lack of interest in making any kind of choice at all.

Although Crites' system includes the majority of types of vocational problems experienced, it provides little help in understanding the reasons why people experience different kinds of problems. Research, aimed at the development of a more comprehensive model of career development in early adulthood, causes Crites (1976) to state that "Dynamics of career adjustment, stages in the work life, organizational climate, environmental and psycho-social milieu: All of these are necessary elements of a comprehensive model of career development in early adulthood" (p.111). Fitzgerald and Crites (1979) furthermore suggest that the potential career development of women is a great deal more complex than that of men, due to the combination of attitudes, role expectations, behaviours and sanctions incorporated in the socialisation process (p.33).

2.5.2.4 Ekehammer (1977)

Ekehammer (1977) proposes a psycho-social approach in determining career choice models, namely a cost-benefit model. He proposes that a cost-benefit analysis can assist in specifying which costs (sacrifices) and benefits (rewards) as well as the size of these, will result from each alternative of action available to a person when confronted with different choice situations (p.245). This approach aligns with Tiedeman et al.'s conceptualisation of the influence of social environment on the individual's decision-making process underlying vocational behaviour (Tiedeman, O'Hara and Baruch, 1963); and with Hilton's (1962) suggestion that the primary motive in vocational decision-making is to maintain a low level of cognitive dissonance.

2.5.3 Attempts to define female career patterns

Attempts have been made to define female career development patterns. Super (1957) attempted a typology of female career patterns and Osipow (1968) classified women's careers according to sex-typing of occupational choice and commitment to work. Jordaan (1977) proposes that working women can be divided into at least three groups. These are:

- (a) Those for whom work is an important source of personal fulfilment, who are more concerned with the intrinsic than extrinsic rewards of work and who are committed to an occupation, not only a job (career oriented);
- (b) Those who enjoy working and would like to continue or resume it, but their satisfactions are extrinsic rather than intrinsic. Their commitment is to working rather than to an occupation or career (job oriented);
- (c) Those who, given an option, would not want to work or would like to exchange work for marriage on a permanent basis. They would prefer to find fulfilment in the home and in their communities (home-making oriented).

Jordaan argues that these different orientations originate from, and can be understood in terms of individual differences in interests, values, needs, self-concepts, abilities and perception of gender and work roles. He suggests that the concept of career and vocational development of women be re-assessed, particularly in the light of Super et al.'s (1976) suggestion that a career needs to be seen as encompassing the sequence of major positions occupied by a person throughout a pre-occupational, occupational and post-occupational life (p.20). This means investigating the implications of changes in needs, values, competencies and in the self-concept, which may occur within an individual during different life stages.

Vocational development and career commitment analysis investigates the process by which the individual's characteristics and the role demands increase in convergence over time (Hall, 1971). In analysing the implications of this process in the case of women, attention must be directed to the impact of critical experiences which affect the individual and her conception of a career role. The assumption is that the person's self- and role conceptions change because of changing social situations and social norms.

Analysis of female career commitment therefore requires:

- a sociological role perspective;
- a psychological perspective involving an individual/ environment interaction and transaction approach;
- an evaluation of life events which play a significant role in female life-span development; and
- some assessment of the value (cost/benefit) of work and career as significant life event for women at different life stages.

2.6 Conclusion

Research on human development has changed from a primary concentration on childhood to focus also on changes occurring in the adult years. The process of change in adulthood occurs through interactions and transactions which take place between the individual and the environment throughout the adult life course.

Society prescribes criteria for assessment of culturally accepted behaviour from men and women. Women are expected to function within ascribed home-making roles. Men are expected to fulfil achievement-related work roles.

Paid employment is central to a man's life but the implications of work for women are still unclear and possibly affected by the normative expectations that women primarily fulfil a family role. Transcending traditional role expectations can result in women experiencing conflicts and the need to develop coping approaches.

Career development of women is accepted as being a more complex issue than career development of men, due to the interrelationships between attitudes, role expectations, behaviours and sanctions incorporated in the socialisation process.

Although the need to develop a model of female life phases is recognised, no such model is as yet available. Models of life-span development are predominantly male life-structure orientated.

The theoretical perspectives guiding the present study are summarised as follows:

(a) Sociological approach: Role theory provides a comprehensive system of relationships and thus can assist in the analysis of attitudes and behaviour. Role analysis also assists in exploring and specifying the interplay between psychological variables like the self-concept and self-identity and the way in which the individual meets changing role demands (Komarovsky, 1973; Sarbin and Allen, 1968; In't Veld Langeveld, 1969; Hoffmann, 1977).

(b) Psychological approach: Behaviour develops in a continuously on-going, reciprocal, person-situation interaction process. Individuals select, interpret and treat situational cues in terms of a mediating process, with some situations being more psychologically loaded than others (Magnusson, 1976; Ekehammer, 1974; Rausch, 1977; Bandura, 1978).

(c) Developmental approach: The ordering of biological, social and psychological events in a life cycle should serve as frame of reference in studying developmental change occurring in the individual. The life-span of an individual can be defined as a sequence of interactions taking place between different aspects of time and behavioural change with distinctive adaptive tasks (life events) becoming salient at different life periods (Thomae, 1979; Levinson, 1978; Neugarten, 1969; Gould, 1975).

(d) Vocational approach: Vocational choice is a process rather than a single event. This process continues over years and crystalises into a self-concept which guides the individual in dealing with the occupational realities of life (Korman, 1974; Super et al., 1974; Jordaan, 1977; Crites, 1976; Ekehammer, 1977).

Research attention must thus be directed to personal dispositions and to situational factors; and to the interactions between these factors to enable assessment of individual behaviour.

CHAPTER III

SURVEY OF RESEARCH FIELD

There are no women of genius. Women of genius are all men

Jules and Edmond Goncourt
The Woman of the Eighteenth Century (1927)
(Mann-Borghese, 1963; p.226)

*We admit that different natures ought to do different things,
and that the natures of a man and of a woman are different, but
now we say that these different natures should do the same
things.*

Socrates: The Republic of Plato
(Lindsay, 1945; p.141)

Although research on the roles, performance and motivation of women proliferate (Levitt, 1971; Terborg, 1977), most of this research relates to comparisons between males and females (Phares and Lamiell, 1977). Research on the psychological implications for women of having to deal with multiple life role demands and the coping strategies required by them to handle conflicting personal and environmental demands, has been neglected.

Personality gender-typing presupposes all men to be like all men and all women to be like all women. Research on individual differences highlights, however, the need to investigate differences amongst women, as well as differences between men and women to obtain greater understanding of the influence of gender on personality and behaviour (Stewart and Winter, 1974). Traditional gender role socialisation prescribes appropriate behaviour for males and females. The prescribed female role behaviour may conflict with present-day role requirements which demand of women more active, confronting and assertive behaviour in the workplace. When a woman experiences discrepancies between her perception of accepted adult gender role behaviour and the perception of her role by significant others, cultural norms or environmental demands, then role conflict can result. Many present-day women experience role stress because of a choice required of them to either develop a home role or work role.

Gender role attitudes influence female expectations of work success but the long-term implications of gender role identification for career involvement is largely unknown.

Occupational achievement requires increasing self-investment in the work which may be problematic for women who are expected to combine marriage and work demands.

If women are to be successful in work and career development, then stereotypes of masculinity and femininity need to change to enable women to develop more fully as persons. Women also need counselling on how to deal with conflict caused by multiple role demands.

3.2 Female life roles

Actual behaviour relates to many factors, including social and cultural norms, the individual's perception of these norms and, on the basis of individual personality, the defining and formulation of the manner in which demands of any given situation are going to be met. The individual belief system in terms of life experiences and the personal position within it, influences the individual's interpretation of specific problem situations and her behavioural responses (Stewart, 1978). Discrepancies experienced between role responsibilities and values, relating to socialisation processes and social norms, and life realities can cause cognitive disequilibrium and conflict (Damon, 1975; Selman, 1971). Kahn et al. (1964) discuss the impact of personal, interpersonal and organisational factors on role conflict and the consequent result in terms of individual satisfaction and tension. Conflict can furthermore result from having to handle too many life role demands which make it difficult for the individual to allocate sufficient time and energy to meet each of the multiple role demands effectively.

Kasl (1973), in a review of "Mental Health and Work Environment", emphasises the need for a theoretical framework which will allow for a person-environment fit assessment. Such a framework, or model, would integrate the job requirements, the individual need "satisfiers", the personal abilities or resources and the discrepancies between the demands and resources of the environment, and the needs and abilities of the person. Kasl quotes research results indicating the work role to be a critical life role which

is often seen as a central life activity in our society. For the individual, work is seen to be the chief source of contact with society at large and this serves as a major influence on the individual's self-concept and self-identity. Verof et al. (1962) emphasise, however, that the marital role is accepted as central to a woman's life. Where both work and marital roles have to be fulfilled, questions arise as to the psychological implications of a forced choice on the individual. Research results indicate that several aspects like role overload, both qualitative and quantitative, lack of use of skills and abilities, role ambiguity and role conflict, are all related to poor mental health, tension, lack of life satisfaction, and weak self-esteem (Kasl, 1973; Zander and Quinn, 1962; Lawler, 1970).

Verof, Feld and Gurin (1962), in research on dimensions of subjective adjustment relating to job satisfaction, personal happiness, and life satisfaction, found clear gender differences in the experiencing of distress. Women's experiences were particularly related to psychological symptoms. The authors comment that differences found between men and women may reflect critical ways in which sexes differ in handling and expressing psychological differences.

Individual differences relating to work role satisfaction and adjustment involve, inter alia, achievement motivation (Vroom, 1964); educational and occupational level (Jackson, 1962; Kasl and Cobb, 1971); personality factors like dependence/independence, flexibility/rigidity (Vroom, 1964, 1969); and, for women, aspects like the number and ages of their children (Levitt, 1971). There is a clear need for research specifically concerned with interrelationships between life roles of employed women, particularly in terms of the effects of events and changes influencing different roles at different life phases.

It is possible that employed women, in order to maintain some level of personal integration and in meeting home role demands, may sacrifice development of the self in the work role situation by curtailing personal aspirations and expected satisfactions

from work. This can influence job involvement and development of the work role, particularly when major life events like marriage and birth of children require divided allegiance.

Different personal values subscribed to by individuals, based on social norms and belief systems, can affect the interpretation of specific problem situations and behavioural responses to such situations (Stewart, 1978). Stewart and Winter (1974), for example, identified two patterns of female behaviour which appear related to integrated personality structures or styles and which become evident in either a self or a social definition. These patterns distinguish between a woman's definition of the self in terms of either traditional ascriptive demands (typical feminine role) and personal achieving demands (more typical masculine role).

It is difficult to directly link female life roles (work and home) with personal satisfaction, health and motivation to achieve, because too little evidence exists indicating to what extent work or marriage is accepted as a central life activity by women. It is possible that work and marriage may become important life events for the same individual, but at different life stages.

3.3 Masculinity and femininity role concepts

The nature of masculinity and femininity has stimulated research from a variety of theoretical orientations.

Initial theorising on behavioural differences between the two sexes was proposed by Freud (1953) and followers of the psycho-analytic school. They stressed the implications of psycho-sexuality on behaviour and emphasised the significance of anatomical sex differences in terms of psychological differences of male superiority and female inferiority. Masculinity-femininity

were conceptualised as polar opposites in terms of active and passive libidinal needs. Male superiority equates masculinity with characteristic independence, aggression and self-confidence, while female submissiveness (femininity) is characterised by absence of such characteristics.

Deutsch (1944) describes the feminine personality as fundamentally passive and masochistic. The more aggressive woman, particularly in her desire to work and compete with males, can be considered to have too many masculine qualities, or to have remained in an infantile state of "penis envy". An early psychoanalytic point of view proposed by Farnham and Lundberg (1947) even claimed employed women to have become masculinised and psychologically disordered, to the detriment of their own, and their family life.

Freud's constitutional bias in differentiating between the sexes was questioned, amongst others by Jung and Bakan. They emphasised the need to recognise the impact of socio-cultural determinants on human behaviour. The psychoanalytic viewpoint, in its support of the prevailing set of cultural values about the role of women in present-day society is, however, still popularly accepted.

Jung, while accepting Freud's adherence to the concept of innate bisexuality, proposed that the individual be treated as an integrated whole, dynamically striving towards harmonious integration of the self in terms of both masculine (animus) and feminine (anima) characteristics.

Jung explained sex differences in terms of the Logos and Eros Principles (men being characterised by objective interests and goal directedness = Logos; and women by psychic and emotional relatedness = Eros). He acknowledged the role of cultural determinants in the formation of personality but warned that the anima should not rule the man nor animus the woman because this could result in deviant behaviour (Homans, 1979).

Bakan (1966) also theorised on the possible duality in male-female personality which relates to innate biological differences, social gender role requirements and assumed psychological differences. He related masculinity to agency and femininity to communion. Agency can be defined as an active outward striving to compete, to achieve, to be accepted as an efficient "doer". It reflects an expectation of self-sufficiency which can result in less effective interpersonal and intimate relationships. Communion, by contrast, can be defined as a need to care, to assist, to be a nurturer, to be at one with others. This reflects an expectation of affiliation, of being accepted and primarily becomes evident in the development of loving and caring interpersonal and intimate relationships. Bakan proposed that this duality in male-female personality could be due to the difference in physiological androgen- and oestrogen levels which is evident in the sexes.

A more direct acceptance of environmental influences on actual behaviour is found in the theorising of Erikson (1968). He conceptualised the difference between masculinity and femininity in terms of a spatial orientation (outer = masculine; inner = feminine) based on the difference in structure and function of the male and female sex organs. Erikson accepts that each sex has the latent ability to develop the characteristics of the other sex depending on social acceptance of such behaviour. He furthermore particularly emphasises the need to accept psycho-sexual development as a dynamic process continuing through the life cycle of the individual.

Physiological differences between the two sexes (based on, for example, hormonal functioning) have been stressed as the base of differential behaviour by researchers like Bardwick (1972, 1974) and Osborne et al., (1978). Bardwick, however, suggests that the relationship between nature/nurture and behaviour must be seen as an interactional process involving changes in physiological functioning resulting in behaviour which, in turn, can cause changes in physiology, rather than as a pure physiological

process predisposing the individual to certain behaviour. The physiologically different structure and roles of males and females thus, by implication, is seen to affect behaviour although research to determine the actual measure of difference is made more difficult because of the complex interaction occurring between individual and social environment (Anastasi, 1958; Maccoby, 1963).

Anthropological theories on the nature of sex differences are based on the social and cultural institutions which culturally transmit patterns of behaviour, determined in part by the functioning needs of society. Mead (1964), who serves as outstanding theorist in her field, emphasises that a variety of approved gender roles are found amongst primitive societies which relate to gender role expectations and stereotypes and which result in psychological sex differences. She elaborates on what she considers to be not only the obvious biological differences but also derivative differences between the sexes arising out of the biological and shaped by cultural circumstances. She aimed at achieving a theory of gender differences incorporating equality of contribution from men and women which neither minimises nor distorts the differences which she feels are inherent and desirable (Mead, 1964).

Socio-cultural expectations and individual learning processes aimed at meeting socialised expectations play an important role in the development of gender role behaviour (Mischel, 1967). Social learning theories, involving research on the development of gender role behaviour, propose that imitative modelling of same-sex adults (Mischel, 1967) or modelling of same-sex peers (Maccoby and Jacklin, 1976) serve as developmental base. Acquiring attitudes through learning, however, requires cognitive awareness of the response contingencies related to different acts of behaviour. Observational learning and cognitive processes are therefore accepted as relevant in the development of gender identity (Bandura and Walters, 1963; Mischel, 1967; Kleeman, 1971; Kohlberg, 1966; Kagan, 1964). Kohlberg (1973), in particular,

emphasises the role of cognitive processes in the development of a gender identity through behaviour modelling and observational learning which (according to him) occurs at an early stage in life. According to Kohlberg, the developed gender identity (which is accepted as the most stable of all aspects of the self-identity) serves to mediate the influence of gender role stereotypes on the development of individual gender role attributes. The following diagram illustrates this process:

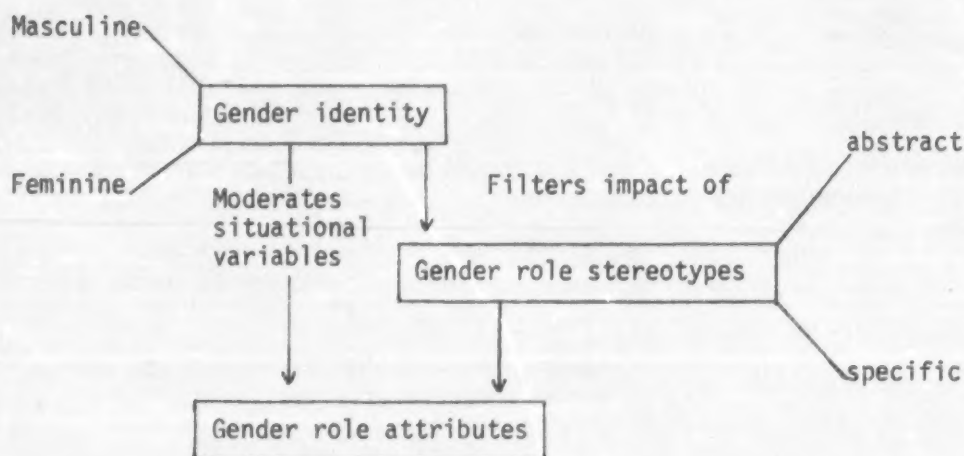


FIGURE 1: Development of gender role attributes

Kohlberg accepts a gender identity as the basic organiser of gender role attitudes and behaviour. The gender identity also assists in the organisation and integration of information into conceptual wholes or systems. Both body image and gender role behaviour may, however, be influenced by environmental factors. The need to adapt and restructure the gender identity to meet, for instance, work role demands, can result in cognitive re-assessment processes aimed at achieving or restoring an integrated self-concept.

Maccoby and Jacklin (1976) extend Kohlberg's formulations and propose that predisposing biological factors play a part in the acquisition of certain modes of behaviour which, through observational learning, social reinforcement and cognitive development, all result in specific gender role behaviour (p.121). The implications of gender differences, their origin and effect on adult behaviour is, however, still open to speculation, and research from different disciplines is required to assist in determining the influence of both situation and personal development on cognition and behaviour.

3.4 Role conflict

Gender role differentiation is one of the most stable of all role differentiations (Holstrom, 1973) and is accepted as a basic social role underlying other status roles.

Since sociological role theories attribute behavioural sex differences to differential socialisation based on role prescriptions for males and females (Carlson, 1971), studies involving intra-sex differences among women tend to assume a "normal" pattern of female behaviour from which some women "deviate" by following a male behaviour pattern. Parson (1952) thus discusses the career woman in terms of a basic masculine role (involving a career) as contrasted to the normal woman (being married and not following a career). Parson and Bales (1955) furthermore differentiate between the masculine role as being primarily goal-directed or instrumental and the feminine role as person-oriented or expressive. Although both sexes share common values, these are organised differently so that men react more instrumentally and women more expressively.

Heilbrun (1968, 1976) extended the concept of gender role behaviour proposed by Parsons and Bales to combine both instrumental and expressive dimensions. Gender role behaviour can thus be characterised by high goal-directed behaviour

(instrumental/masculine) versus low goal-directed behaviour (expressive/feminine); or by social avoidance behaviour (instrumental/masculine) versus social approach behaviour (expressive/feminine); or by assertive independent social behaviour (instrumental/masculine) versus submissive dependent behaviour (expressive/feminine). Heilbrun suggests that pure forms of gender behaviour do not exist but that environmental factors and individual cognitive assessment of situations can result in modified and varied combinations of instrumental/expressive behaviour.

Angrist (1969) also emphasises that the individual rarely functions just as is expected of a man or a woman but that behaviour is modified to meet the demands of certain situations.

Komarovsky (1973), in defense of role theory, states that role analysis allows for a clearer identification of the intrusion of the self into a role because role analysis encourages a full exploration of social structure (p.654). However, she also states that the sexes are still socialised to maximise ascendancy traits in boys and to mute them in girls (p.657). This can, in the light of present-day life demands, result in identity confusion and role conflict in women. The need to look anew at the relevance of the traditional passive, dependent and submissive feminine role in terms of contemporary life demands made on women is therefore stressed by various researchers (Angrist, 1969; Bardwick, 1971, 1972; Yorborg, 1974; Russo, 1979; Kearney, 1979; Shields, 1975).

Many problems may be experienced, especially by educated women and those in professional jobs, when having to adjust to the socially defined feminine role and the modern role, which requires of women to be assertive and achievement oriented (Komarovsky, 1946; Bernard, 1975; Bardwick, 1971, 1972; Glazer, 1977, Tresemer, 1977; Horner, 1972; Wirtenberg and Nakamura, 1976; Sherman, 1976; Rebecca, Hefner and Oleshansky, 1976).

75.

The consequences of meeting these conflicting role demands may be manifested in poor female self-esteem, experiences of stress and anxiety, and low aspirations (Lemkau, 1979). Terborg (1977) states that "Based on aggregate data women describe themselves and are described by men as having self-concepts that are not suitable for management" (p.658) because they tend to ascribe a role to women that entails less competence than the role prescribed for men. Conventionally socialised women tend to develop their self-esteem in terms of success in marriage and in performing home-making duties, rather than in terms of occupational achievement (Rosen and Aneshensel, 1978). Lipman-Blumen (1972), however, found that among married female college graduates those with non-traditional gender role standards had higher educational aspirations, were more likely to attach importance to their own achievement (as opposed to their husbands' achievement) than women expressing more traditional gender role values.

The cultural stereotyping of masculine and feminine roles can have implications for women in authority who may face a basic incongruity between the role requirements of the position and the sex-linked role conceptions they and their subordinates hold (Bayes and Newton, 1978).

Hall (1972) submits that the major role problem a woman faces is the conflict arising from multiple roles leading to inter-role conflict, rather than from conflicting expectations within a particular role (intra-role conflict). He proposes that working women use three kinds of coping strategies when experiencing role conflict situations. These strategies are:

- (a) structural role redefinition (changing the demands of a role);
- (b) personal role redefinition (defining priorities and learning to live with conflict);
- (c) reactive role behaviour (trying to meet the demands of all the multiple roles).

Hall found structural role redefinition to be positively related to satisfaction with a career. Such redefinition involves dealing with the objective reality of the situation rather than with the person's perceptions or feelings about it. Coping through structural role redefinition permits the individual to change the external reality of role demands and make them more congruent with her own interests and objectives. This involves selectively reducing role activities to those most central to a person and bringing expectations of individuals in other roles, (employers, family) into line with the individual's own role preferences. This type of coping requires that the person achieves internal integration and awareness of those aspects of identity that are most valued and therefore to be included and developed in role activities.

Gender role attitudes and gender role identity have been shown to influence female expectations of work success (Lenney, 1977) but the long-term implications of gender role identification for career involvement is largely unknown (Angrist, 1969). The incorporation of male stereotypic traits into the female self-concept need not be interpreted as a moving away from positively valued characteristics of femininity, but rather as enhancement of a self-concept in terms of maturity and self-actualisation (Clarkson, Vogel, Broverman and Broverman, 1970).

According to Lewin's field theory, both internal and external forces operating on the individual in conflict situations should be examined (Lewin, 1954). When relating this theory to the assessment of women's career commitment, the external force stimulus can be seen as economic need or as arising from major life events like marriage, the birth of a child, widowhood, and divorce. The internal forces would relate to individual needs and values.

Commitment to a cause tends to focus on the ultimate outcome rather than on an immediate response. The level of commitment varies with the relative importance to the individual of the motives she expects to have satisfied. When confronted by conflicting home and work roles, the individual's behaviour is guided by her perception of the situation and her expectation of the preferred outcome which guides her choice of alternative. Work commitment thus depends on the individual's assessment of work as preferred role choice and work as major life role.

3.5 Work role

Korman (1970) states that theory and research on career choice points to the importance of a person's self-concept as determinant of vocational preferences. People prefer to choose careers which are consistent with their attitudes about themselves. This concurs with Stein and Bailey's (1973) suggestion that women choosing traditional and non-traditional careers do not differ so much in terms of a need to achieve, but rather in terms of the ease with which they can express themselves in occupations traditionally labelled as "male". Traditional career choice is thus explained in terms of allowing expression of achievement strivings within culturally acceptable work role demands, thereby reducing possible internal conflict and negative feedback.

Terborg (1977) also states that "It does appear that women who pursue nontraditional careers reject sex role stereotypes and that, once in those positions, they have needs, motives and values that are similar to men who are also in those positions" (p.658). In analyses of characteristics of college women planning to enter traditionally male or female professions, Almquist and Angrist (1970) proposed that those who anticipate entering male professions can be differentiated in terms of "deviance" and "enrichment" hypotheses. They suggest that the unconventional chooser can be identified in terms of less feminine interest in

marriage and children, and accordingly a more pathological striving in terms of "masculine" goals. Such women are therefore characterised by deviance from the conventional gender role behaviour pattern. The chooser of an unconventional role can, however, also be characterised by "enrichment" which, due to a greater range of experiences, results in the individual accepting a less stereotyped and broader conception of the female role, which manifests itself in a less typical career choice (p.243). Almquist and Angrist furthermore found a strong relationship between the degree to which work is anticipated as an important aspect of adult life (career salience) and non-traditional career choice.

Occupational achievement requires increasing self-investment in the work, which may be problematic for women, depending on their expected or actual life circumstances. Occupational achievement, furthermore, appears to be less important to female than to male self-worth and also less important for social approval. Women, therefore, are more free to choose where and when they want to work and what value to place on work involvement (Rosen and Aneshensel, 1978). Studies have shown that the aspirations of women in terms of educational and occupational status attainment differ from those of men (Alexander and Eckland, 1974; Hout and Morgan, 1975) but why this is so is as yet not clear. Rosen and Aneshensel (1978) propose that this may be interpreted as a logical consequence of sex role socialisation which guides males into accepting academic ability as pertinent to occupational attainment and females into considering academic results as primarily relevant to educational attainment. According to Kutner and Brogan (1976) gender role orientation, gender difference stereotypes and ego-strength influence the nature of the individual's psychological cognitive structures. This has relevance in terms of the assessment of educational achievement and influences educational and occupational aspirations and expectations.

Research on factors affecting coping simultaneously with family and work role demands indicates that whereas women can add a work role they have difficulty in shedding family role demands (Terborg, 1977; Hall, 1972). Marriage and family demands do, in effect, change professionally trained women's attitudes towards both family and career roles. Rossi (1965) emphasises that research results clearly substantiate the statements that personality, marriage and family status are determinants of women's career development (p.521).

Recent research done by Waite (1979) and Waite and Spitze (1979) also indicates that women's relative preference for work as against home demands systematically changed in response to marital events, including first marriage, birth of a first child, and divorce.

In terms of Ekehammer's (1977) proposal of a cost-benefit model for career choice, it seems that individual women, at different stages in their lives, have to determine for themselves the costs (sacrifices) and benefits (rewards) as well as the extent of these, of alternative life role choices available to them.

3.6 Work as life event

During adulthood, individuals are confronted by different, stage-specific or other significant life events. A life event is generally defined as a change in an individual's life-style or activities which requires selection, evaluation, modification, and the implementation of coping strategies to deal with changing psychological and environmental characteristics (Hultsch and Plemons, 1979). The timing and sequence of life events are significant, although events do not necessarily have a uniform meaning. Neugarten (1966) examined adult development and personality change in terms of the implications of major life events thereon and she emphasises the socio-historic context

against which change occurs. Neugarten and Datan (1973) view the adult life cycle in terms of three time dimensions, namely:

- (i) life time (chronological age);
- (ii) historical time;
- (iii) social time.

In our society these three time dimensions are closely interlinked, particularly with regard to women. The life time includes a biological role, relating to childbearing years; the social time relates to cultural expectations (for example, time for women to get married); and the historical time which can, for instance, include economic demands strongly influencing women to accept a work role. Women, trying to deal with all life events, may experience conflicts which may require personal role redefinition rather than structural role redefinition or even reactive role behaviour by women (Hall, 1972). Emmerich (1973) correctly states that distinctive adaptive tasks become salient at different life periods (starting a work career; retiring) and that these tasks are likely to have different implications for the sexes.

It has been stated that a man's work is something by which he is judged and according to which he judges himself (Faunce, 1976). Changes in work life, at different points in the life cycle, have been shown to have specific personality implications for men (Hultsch and Plemons, 1979). The implications for women are not as clear because changes in work life demand a decision rather than the need for a choice (Bailyn, 1964).

Characteristics of jobs, early in a man's work life, have lasting effects on occupational attainment but research on this is lacking for females. Little is known about how women obtain first jobs or the consequences of early jobs for later work involvement (Spitze and Waite, 1979). In analysing young women's

early labour force experiences and work attitudes, Spitze and Waite conclude that, "The role of work-related attitudes in women's employment decisions is a much-discussed and often-neglected area of research. This analysis demonstrates that the causal connections are complex, the temporal sequence uncertain. A good deal of work needs to be done before we begin to understand exactly how work attitudes are formed and if and how they influence women's labor force behavior" (p.29).

Occupational aspirations and a motivation to succeed relate to the importance attached to the outcome of the effort given (Vroom, 1964; Louis, 1977). The need to succeed in attaining a goal and the personal effort involved can be coupled to feelings of anxiety of either failing or succeeding (McClelland et al., 1953; Horner, 1975). A conflict between success and failure, and success and success is particularly relevant to employed women who, while being employed, may experience a negative evaluation of their performance as woman, wife and mother (Hennig and Jardim, 1978). The increased need for self-investment required by career commitment may compel women to assess the moral principles involved in making a choice with regard to conflicting role demands. Such principles may also guide women in their choice of coping strategy. Kohberg (1973) proposes that psychological changes in adulthood can be seen as the result of experiential interaction with the environment during which principles of moral choice and individual responsibility are developed. Emmerich (1973), in discussing the implications of life events and adaptation to life tasks, states that older individuals tend to relax psychological controls in terms of acceptable social gender behaviour. He suggests that a firm gender role identity may therefore be just one of many manifestations of a general cognitive stage. However, it may also represent but one phase in a life-long series of identity changes during which categories other than gender status can typically become more salient (p.144). The implications of gender identity and gender role choice on adult behaviour is still to be researched, particularly concerning adult female behaviour.

The dilemma faced by women of today, therefore, can be reduced to the conflict of "can I be a successful woman and a successful person? Can I be successful in terms of marriage and can I be successful in terms of occupational achievement, or do I have to accept that these two roles represent alternatives relevant at different stages of life?"

Society considers a woman's full-time commitment to a job or a career as a stumbling block in the fulfilment of her duties as a woman, although, when convenient, these norms can change and women can be enticed to enter the labour market under the pretext of increasing their self-respect and serving the country's economic needs.

In analysing the value of work as life event for adult women, insight into personal determinants influencing female role adherence and occupational involvement is required. This is particularly necessary in terms of Jersild et al.'s (1978) statement that "..... a life-span perspective on vocational development has made more apparent the fact that persons' occupations may be more or less central in their lives, depending on their life stage and the nature of their involvement in other life areas" (p.529). Jersild furthermore emphasises the relevance of Super's definition of a career which is not restricted to occupational and work-related roles but which encompasses the complex interaction of developmental processes involving all major adult roles, and as such is also relevant in guiding theorising on female career involvement.

3.7 Psychological research on male/female behaviour

3.7.1 Can a woman be a successful person?

In their studies of human behaviour, psychologists have tended to accept male behaviour as the norm and female behaviour as some kind of deviation from that norm (McClelland, 1975, p.81). Both males and females also tend to accept the healthy male as having

characteristics which differ from those of a healthy female. However, assessment of the healthy person, irrespective of sex, indicates acceptance of characteristics generally attributed to male behaviour (Broverman et al., 1972).

Personality attributes, seen as being either masculine or feminine, (thus polar opposites), tend to show females in comparison to men to be:

- (i) more socially responsive and people orientated (Carlson, 1971; Bakan, 1966; Hoffman, 1972; Gump, 1972);
- (ii) less aggressive (Maccoby and Jacklin, 1976; Kagan and Moss, 1962; Halas, 1974; Carlson, 1972);
- (iii) more susceptible to anxiety (Bem, 1975; Bem, Martyna and Watson, 1976; Cosentino and Heilbrun, 1964; Block, 1976; Constantini and Craik, 1972);
- (iv) less independent and autonomous (Kagan and Moss, 1962; Hoffman, 1977; Carlson, 1971; Halas, 1974);
- (v) less self-confident and with lower self-esteem (Stake, 1979; Deaux and Emswiller, 1974, Barnett and Baruch, 1978);
- (vi) less achievement orientated (Hoffman, 1977; Rossi, 1965; Wessels, 1975; Lemkau, 1979; Horner, 1972; Levitt, 1971).

The stereotypic view that women lack self-confidence; have a low need to achieve; are anxious, insecure and dependent in contrast to males who are aggressive, independent and secure is, however, questioned (Block, 1976; Maccoby and Jacklin, 1976; Rosenkrantz et al., 1968; Horner, 1972).

The influence of sex role stereotypes on individual behaviour patterns is emphasised by research results (Maccoby and Jacklin, 1976; Helson, 1972; Hoffman, 1972; Tangri, 1972; Rosenkrantz et al., 1968; Broverman et al., 1970; Horner, 1972; Gump, 1972). Block (1976) therefore cautions that stereotypes should neither be rejected nor accepted uncritically in the scientific evaluation of sex differences (p.295).

Being judged a successful person in terms of Western criteria refers to feelings of self-confidence, self-respect, self-satisfaction, and self-worth. Success also involves the development of a sense of competence because of confidence in personal potential and the ability to interact effectively with the environment. For men, this presupposes involvement with a work role and work status which fosters feelings of achievement, responsibility, competence, acceptance and support (Tharenou, 1979). However, for women to become successful persons, requires a choice between following either a social-emotional orientation associated with a feminine approach, or the thinking task orientation associated with the masculine approach. For women who hold a traditional view of women's roles, any expectations or needs that conflict with the traditional maternal role may be stressful and may result in conflict when, for instance, being forced by circumstances to combine home and work roles. Recent theoretical orientations in terms of masculinity, femininity and gender role identity proposes, however, that rigid adherence to traditional gender roles as representing two independent dimensions may be dysfunctional. Both masculine and feminine characteristics may co-exist in the same individual and in effect may result in a better adjusted person (Bem, 1975; 1977; Spence and Helmreich, 1979). Both men and women perform a variety of actions which can be placed on a continuum from independence to dependence, expressive to instrumental.

Individuals who feel free to express themselves appropriately in different situations irrespective of gender role norms are accepted as being psychologically better adjusted and have been labelled "androgynous" (Bem, 1974). The androgynous person is characterised by a relatively high degree of both masculine and feminine characteristics, which results in a degree of independence, nurturance, assertiveness, passivity to vary not only between individuals (male or female) but also according to the appropriateness of such behaviour for different situations.

The recently formulated concept of psychological androgyny has opened new avenues for research on psychological gender identity (Bem, 1974, 1975, 1976; Heilbrun, 1973; Spence and Helmreich, 1978; Pleck, 1975, 1976; Rebecca, Hefner and Oleshansky, 1976). This new view has stimulated the development of various scales designed to measure masculinity and femininity independently (Bem, 1974; Berzins, Wellung and Wetter, 1978; Heilbrun, 1976; Spence, Helmreich and Stapp, 1975).

Bem and Lenney (1976) found androgynous subjects to be more co-operative and to engage in a variety of tasks irrespective of whether these were defined masculine or feminine. Individuals adhering to either a masculine or a feminine role identity were not only less willing to undertake cross-sex activities but they also expressed more discomfort when performing activities not in accordance with their traditional sex roles. Androgynous individuals, by contrast, appear to share both the masculine person's independent nature and the feminine person's nurturance. Androgyny therefore seems to be a psychological trait, with balanced positive male and female characteristics which enables the individual, conforming to environmental demands to behave in either a masculine or feminine manner (Bem, 1974, 1975).

Rebecca et al. (1976) emphasise the need to recognise the diversity of situations which an individual encounters and which she/he has to synchronise in terms of situational demands and personal inclinations and abilities. This requires a dynamic and flexible adaptive approach. The androgynous person thus needs to be seen as being able to transcend personal and traditional expectations in meeting new or emergent situational demands, which may result in having to deal with continued, dynamic, conflict resolution (p.205).

Spence and Helmreich (1979) discuss the implications of Parson's differentiation of role responsibilities between the sexes in terms of instrumental and expressive characteristics, and state

that task analyses do show differences between professions requiring expressive or instrumental performance. They suggest ".... that many activities that are normatively masculine (i.e. male dominated) demand instrumental attributes for their execution (whether or not they also benefit from expressivity) and feminine (female dominated) demand expressive talents (whether or not they also demand instrumental qualities)" (p.1040).

The importance of determining the nature of an individual's self-concept of his/her own masculinity and femininity, and their comfort or discomfort in instrumental or expressive behaviour is important when researching female career commitment.

3.7.2 Combining marriage and work demands

Bernard (1972) claims that married women experience more symptoms of psychological stress than other categories of the American population. A possible reason for the stress found amongst married women may relate to feelings of powerlessness because of their economic dependence, culminating in uncertainty and lack of control over their future, and frustration (Gove, 1972, 1980). Barnett and Baruch (1978) found that middle-aged married women were a more distressed group than other groups of males and females. They also had a poor self-concept, felt inadequate as parents and more dissatisfied with their marriages. Although traditionally marriage and children are conceptualised as crucial to a woman's well-being, research results indicate that in women whose children have left home the incidence of depression was lower than in women with young children in the home (Lowenthal et al. 1975; Lowenthal, 1975; Radloff, 1975).

Paid employment has not been conceptualised as central to the lives of women, and work therefore is not seen to primarily affect their perceptions, values and cognitive processes.

Kipnis (1974) states that girls' educational and career goals have little relation to their material aspirations and feminine choices to have a career appear to reflect an aspiration to intrinsic work rewards gained through the work itself, rather than through socialised expectations of achievement and upward mobility in the workplace.

However, research on women in management (Terborg, 1977; Hennig and Jardim, 1978) reveals that women who pursue non-traditional careers, when in senior positions, show the same needs and values as men in those positions. Schein (1980) emphasises, however, that women functioning at executive level differ from men in terms of attribution of perceived competency. Men attribute success to ability while women attribute it to luck or chance.

Terborg (1977) emphasises the need to investigate individual differences found within either sex rather than comparisons between the two sexes. "We should be careful not to conclude the existence of sex effects when these differences may really be due to variables that covary with sex" (p.659). Women in non-traditional careers typically reject traditional sex role stereotypes (Terborg, 1977), while women in traditional careers tend to adhere to more traditional sex role stereotypes (Edwards, 1969; Levitt, 1971).

If women are to be successful in work then less rigid adherence to gender role behaviour is required. Women also need counselling and guidance to assist them in meeting present-day role requirements. A traditional feminine self-perception may inhibit employed women from achieving in the workplace. Adhering to a traditional masculine identity can assist a woman to achieve in the workplace but it can cause conflict in marital relationships. Employed women must be able to follow an androgynous life approach enabling them to deal with changing situations according to either a nurturant or assertive approach.

3.8 Personality gender-typed research results

Masculinity and femininity have been shown to be personality dimensions which significantly influence behaviour and which do differentiate between the sexes to some degree.

Research on personality gender-typed behaviour indicates the following:

- (i) Women are particularly influenced by gender-typing which affects their self-concept and their perception of others and results in feelings of inferiority and a lack of personal control, albeit unwarranted (Rosenkrantz et al., 1968; House, 1974; Midgley and Abrams, 1974);
- (ii) Adherence to the female stereotype tends to limit and restrict women's personality development and functioning, particularly in regard to achievement orientation (Horner, 1972). Hoffman (1972) proposes that the socialisation process inhibits a need to achieve in women through discouraging their development of independence, competence and self-esteem. Horner (1972) indicated a "motive to avoid success" found amongst women. This related to a fear of negative social outcomes of success, like loss of femininity, rejection by opposite sex experienced by competent, high-achievement women. Such women would prefer to adhere to a feminine stereotype although this would result in resentment and hostility. Women with more traditional sex role stereotypes react more to success in traditional male orientated situations than women with less traditional sex role orientations (Alper, 1973, 1974; Feather et al., 1974; Monahan et al., 1974; Peplau, 1976). Stewart and Winter (1974) found that even women with a strong career orientation were concerned by potential loss of affiliative needs, while Shaffer and Wegley (1974) conclude that competent women who reject traditional sex role preferences, particularly if orientated to successful competition with males, will be judged less attractive socially and as a work partner;

(iii) Self-definition in terms of stereotyped gender roles limits and restricts women's behaviour to be consistent with the stereotype, irrespective of the situation (Bem, 1975; Bem and Lenney, 1976; Block et al., 1973; Constantinople, 1973; Heilbrun, 1968). This implies "conforming" rather than "becoming" behaviour and can result in conflict when situations demand dual-role responses. This implies that feminine identity women are more dependent and masculine identity women are more assertive (Heilbrun, Kleemeier and Piccola, 1974);

(iv) Social responsivity was found to be higher for women endorsing a feminine identity than women endorsing a masculine identity (Bem, 1975; Bem and Lenney, 1976). Androgynous women who include both high masculine and high feminine identification patterns were found to be more caring and socially responsive than masculine or non-androgynous women (White, 1979; Heilbrun, 1976);

(v) Research results indicate that women with a high masculine identity (but not necessarily including androgynous, i.e. high masculine/high feminine women) are less anxious than women with a feminine identity (Marshall and Wijting, 1980; Block et al., 1973; Kelly and Worrell, 1977);

(vi) Information on individual dispositional differences in aggression is not readily available. This is partially due to a lack of clear definition of the concept of aggression. Assertive behaviour can be compared to certain dimensions of aggression, particularly the aspect of "forceful behaviour" (Bandura, 1973). Forceful or assertive behaviour depends, however, on environmental stimuli, the emotional arousal it causes, the mechanisms to cope with stress learned by the individual and the relative effectiveness of such coping. Depending on these interactions, either achievement strivings or withdrawal and resignation can result. Bandura proposes that low masculine role modelling may result in inhibiting aggression or forceful behaviour in women;

(vii) Bernard (1980) found in analysis of sex role formulations measured by the Bem Sex Role Inventory, and personality dimensions measured by the Sixteen Personality Factor questionnaire (Cattell et al., 1974), that masculine and androgynous females were associated with boldness and dominance (i.e. instrumental agentic characteristics). Feminine subjects were associated with submissiveness and shyness (i.e. communal characteristics);

(viii) Gender role orientation has been shown to moderate the effect of achievement motivation on achievement behaviours (Mednick, 1979). It can therefore be expected that women with an androgynous or masculine self-concept will have higher achievement motivations since this motive is associated with aggressive, independent, innovative (agentic) behaviour.

3.9 Conclusions

Present-day role demands emphasise the need for employed women to be able to accept both their feminine role characteristics and the characteristics of the so-called male working role to enable personal adjustment.

An androgynous approach to life is necessary to enable women to cope with the present-day demands. However, until such time as the androgynous behaviour is acceptable to both males and females, employed women may have to rely on both androgynous and masculine behaviour to cope with multiple role responsibilities.

There is a need to look anew at the role demands made on employed women, particularly educated women and women in professional jobs, to enable psychological counselling aimed at assisting them to develop coping strategies.

Hall (1972) submits that employed women can adopt any of three coping strategies in dealing with role conflict. These strategies relate to either role restructuring in terms of

structural role change; or in personal role redefinition; or in trying to meet all role demands. Coping behaviour requires personal insight and internal integration of most valued identity aspects. This may involve adherence to traditional gender role or adaptation thereof.

Depending on life experiences, current life situations and future expectations, work and career involvement may vary in terms of its value as life event. Women, at different life stages, have to determine for themselves the nature and extent of the costs (sacrifices) and benefits (rewards) which alternative life choices relating to marriage, work, children, may require.

In making such choices, women are influenced by chronological age, historical time, social time; personality factors like sex role identity, need to achieve, independence, and life circumstances like marital responsibilities, economic necessity and work demands.

There is a clear need for research specifically concerned with the interrelationships between life roles of employed women and the effects of events and expectations influencing different roles during different life phases.

There is a need to look anew at the relevance of the traditional passive, dependent and submissive feminine role for meeting contemporary life demands of women.

Insight into problems experienced by present-day employed women can assist in more effective vocational counselling of the employed women of tomorrow.

CHAPTER IV

DEFINITION OF RESEARCH AREA

'Then, my friend, there is not one of those pursuits by which the city is ordered which belongs to women as women, or to men as men; but natural aptitudes are equally distributed in both kinds of creatures.'

Socrates: The Republic of Plato
(Lindsay, 1945; p.143)

'Shall we, then, assign all occupations to men and none to women?'

'Of course not.'

'But we shall say, I fancy, that one woman is by nature fit for medicine, and another not; one musical, and another unmusical?'

Socrates and Glaucon: The Republic of Plato
(Lindsay, 1945; p.144)

4.1 Introduction

One of the critical problems confronting South Africa in meeting its economic developmental needs is a shortage of trained manpower. White women, who already form a significant proportion of the labour force, also serve as potential labour reserve of professionally qualified and skilled manpower, capable of meeting executive level manpower shortages. Business and industry are, however, confronted with the question of how to motivate women workers to remain within the work ranks, to develop careers, and to aspire to ascendancy into positions of higher status and responsibility.

Discrimination against women at work, and conflicting adult life roles of women are blamed for the lack of achievement-directed behaviour necessary to ensure female promotion into managerial job ranks.

Women who accept positions of higher status and responsibility must be able to function independently and assertively when competing with their male counterparts. For some women, such behaviour could conflict with what they would accept as being appropriate behaviour for a woman. Traditional socialisation of women is not necessarily relevant, or future orientated enough, to prepare them for the personal adjustments required to deal with changing life demands. Coping strategies adopted by employed women in meeting multiple role demands may, however, change over time. This may be the result of changes occurring in the importance attributed to the family needs and/or for changes in job demands and personal expectations.

The significance of work as an important life event during different stages of a woman's life-span, still needs to be researched. In this connection analysis is required of:

- (i) What do employed women feel, think, wish and what do they do at different life stages?
- (ii) What are women, in different life circumstances, expected to do?
- (iii) What are the implications of the interaction between individual needs and environmental demands on female work involvement and career commitment?

4.2 Barriers to achievement

4.2.1 External barriers

Different factors may inhibit women from engaging in the achievement-directed behaviour necessary to ensure promotion into managerial ranks. Some of these factors are external to the woman herself, like general attitudes towards women in executive positions; attitudes towards female competence and long-term work commitment; the prevalence of the "male managerial" model; and demotivating income-tax structures. Women's social role expectations may also serve as external barrier therein that marital state or marital and family expectations inhibit full development in the workplace. The husband's negative attitude to a working wife, or transfer of the husband, can also result in disrupted or premature disruption of a woman's work career. There are, however, also factors internal to women themselves which may inhibit their work role development and the research emphasis of this study is specifically directed towards identifying such factors.

4.2.2 Internal barriers

Internal barriers which inhibit the expression of upward occupational aspirations are affected by psychological factors. A woman's sense of "self" as this relates to the perceived

consequences of occupational advancement as well as her assessment of the cost/benefit implications of accepting increased work responsibilities may influence her need to achieve or not to achieve. Atkinson and Feather (1966) regard expected consequences and their incentive values as crucial determinants of the nature and degree of achievement-related behaviours. If the anticipated consequences of a particular behavioural response have negative valence, then such responses may be inhibited. Korman (1970) hypothesised that, all things being equal, individuals will engage in, and find satisfying, those behaviour roles which give them a sense of cognitive consistency. The woman who accepts employment and who expects to achieve in the workplace is thus confronted with a dilemma because society sees the ideal woman as lacking in the masculine attributes of assertiveness and achievement. To defy societal role expectations requires a so-called "strong personality" with behavioural characteristics commonly ascribed to men and reflected in a "competency" cluster involving independence, rational competence and workplace effectiveness. These contrasting expectations can result in role conflict, particularly for women who adhere to traditional role expectations but who, through force of circumstances, must compete in the male world of work.

4.2.2.1 Self-esteem

Coopersmith (1967) defines self-esteem in terms of an attitude of approval or disapproval which indicates the extent to which the individual believes the self to be capable, significant, successful and worthy (p.4-5). The construct of self-esteem can be interpreted as a personality trait and/or as a response to environmental stimuli (Tharenou, 1979). The duality evident in Bakan's (1966) terms of agency and communion implies the complex interrelationships between the different adult life roles which women have to integrate in terms of a self-concept. Bakan states

that, "Agency manifests itself in self-protection, self-assertion and self-expansion; communion manifests itself in the sense of being at one with other organisms" (p.15). Women who experience conflicts in deciding between career and marriage; in meeting family commitments at the cost of personal development and career fulfilment are, in effect, experiencing a crisis in trying to achieve an integrated sense of self in terms of different self-identities. These role relationships can be seen as transactions involving allocation of scarce resources among various role obligations in terms of expected rewards or penalties from role partners or from society. In order to achieve life role congruence women have to choose between different sub-identities like a work identity, a social identity, identity as mother or wife, to determine different functional priorities which can assist them in maintaining internal balance (Lawrence and Lorsch, 1969). Gouldner (1959) emphasised that identity aspects like gender role and self-image are important in terms of behaviour organisation, particularly of individuals in a work environment.

The importance to the individual of how she perceives herself and how she is perceived by others does affect her level of security and attitude towards the self (Lecky, 1945; Wylie, 1961). Bardwick (1971) suggests that the value a woman places on the "self" determines the level of self-esteem, and the lower the personal self-esteem the greater the tendency to assume a socially prescribed role.

The need for internal balance will guide the individual to seek situations where self-esteem may be increased and to avoid situations of conflict. If the esteem of the "self" is high, then individuals may seek personal improvement and success. This may involve agentic behaviour typically found in the workplace. If, however, self-esteem is low then the individual may try to protect the sense of competence and avoid failure. For women, this may be done by over-identifying with others; typically becoming one with other organisms.

Analysis of the relationship between the characteristics of the work environment and the level of self-esteem indicates that a fit between personality predispositions and job demands results in a sense of task competence (Morse, 1975, 1976). Positive relationships are also reported between worker autonomy and self-esteem (Kohn and Schooler, 1973) and work role and self-esteem (Margolis, Kroes and Quinn, 1974). Low work role self-esteem is, in contrast, associated with role ambiguity (Margolis et al., 1974; Beehr, 1976) and with qualitative role overload (Margolis et al., 1974).

Experience of the self and self-esteem is a complex and individual factor. Tharenou (1979) emphasises that future research should investigate the importance of the work role to employee self-esteem, particularly in life cycle perspective. She also states, "A useful explanatory concept when assessing the relationship between job satisfaction and self-esteem may be that of job involvement or central life interest" (p.338). Paid employment has not been conceptualised as central to the lives of women, who are not expected to function as economic providers nor to derive self-esteem and identity from this role. Changing present-day demands, however, create work experiences for women, some of whom express strong identification with their work role and for whom this role becomes a central life interest, irrespective of marital status or family commitment (Hennig and Jardim, 1978).

Hollander (1972) suggests that a positive relationship exists between self-esteem and performance of sex role appropriate behaviour. If this is so, it would indicate that employed women could be expected to experience a sense of anxiety and possible low self-esteem when their work demands require transcending sex role appropriate behaviour.

The recent research focus on the behavioural and societal consequences of more flexible sex role self-concepts as found in the androgynous person, offers an opportunity to investigate anew the implications of a sense of self in terms of work involvement. Results of research done by Gordon and Hall (1974) suggest that the inclusion of so-called masculine traits into women's self-descriptions may differentially affect their overall estimation of self-worth. If a woman subscribes to a traditional feminine role, with the socialised assumption that because she is not a man she is not endowed with the competency characteristics ascribed to men, then she may lack confidence concerning her ability to do the job well. If, however, a woman feels secure enough to manifest masculine traits, she may do so either by avoiding the expression of traditional feminine traits, or by combining both masculine and feminine traits. The extent to which a woman can experience an integrated sense of self, with a stable integrated identity core, and the extent to which she experiences herself as person who can effectively influence her environment, to that extent she can also experience a greater measure of congruence, increased self-esteem and psychological success (Lewin, 1936; Argyris, 1964; Hall, 1972).

4.2.2.2 Achievement motivation

Definitions of motivated behaviour depend on theoretical models rather than on aspects of actual behaviour itself. The concept of motivation to achieve, proposed by McClelland et al. (1953), is a dual entity formed by a combination of the "self"-sentiment and the assertion of the "self" to do well in comparison to some standard of excellence. According to McClelland's theory, an individual with a strong achievement drive wants to be successful in meeting societal tasks, not only for money and status but for the sake of accomplishment, indicating that he or she has done well. However, individuals may also experience fear and a motive to avoid a situation. Motivation can thus be

assessed on a dimension of both approach and avoidance behaviour (Need/Achieve and N/Avoid Failure).

Atkinson (1978) proposes "..... that the strength of the tendency to achieve success (T_s) which is expressed in the interest and performance of an individual in some task, is a multiplicative function of three variables: motive to achieve success (M_s), conceived as a relatively general and relatively stable disposition of personality; and two other variables which represent the effect of the immediate environment - the strength of expectancy (or subjective probability) that performance of a task will be followed by success (P_s), and the relative attractiveness of success at that particular activity, which we call the incentive value of success (I_s). In other words, $T_s = M_s \times P_s \times I_s$ " (p.12). In this definition the concept of motive represents individual differences in a liking for success or achievement in general.

Theoretical approaches predicting achievement behaviour as a function of achievement motive is more generally found to be applicable to men. Research on women's need to achieve has provided ambiguous results (Verof, Wilcox and Atkinson, 1953; French and Lesser, 1964). Unlike men, women do not respond uniformly to the masculine competitive model (French and Lesser, 1964). Achievement motivation, however, need not only operate in the conventional work situation but achievement goals can differ for different roles. Important areas of achievement accepted for women relate to affiliative needs, including social skills and interpersonal relations (Stein, 1971; Stein and Bailey, 1973).

Hoffman (1972) suggests that females have greater affiliative needs than males. Hence the expectations and incentive values concerning achievement related success would differ for males and females in that women would curtail achievement strivings should these result in negative feedback. Conflict between affiliation and achievement needs would ensue.

Fear of failure may also be a factor in women's reluctance to achieve and to aspire to higher level positions. Atkinson (1957) proposes that the motive to avoid failure can be seen as a disposition to avoid experiencing shame and humiliation as a consequence of failure. The need to avoid failure may be based in the socialisation process which guides males to develop coping mechanisms for dealing with failure in the work situation. Women, who are not expected to compete in the work environment, are not given the same guidance in dealing with such contingencies. Heckhausen (1975) proposes that individuals with a high fear of failure will be content to remain in occupations which do not expect the incumbent to deal with uncertainties. It seems probable that women who have to deal with present-day multiple role contingencies and who adhere to a feminine gender role stereotype, will tend to be more vulnerable to fear of failure than women who identify with a more masculine gender role stereotype. The latter may be expected to be more achievement orientated because of greater independence and internalised standards of excellence, hence transcending traditional stereotyped role orientations. It must be accepted, however, that present-day women, taken globally, subscribe to many different goals, and that women, individually, choose achievement contexts in which they can strive towards goals they value most, be it in the home or work environment.

4.2.2.3 Dependence/independence

Independence can be defined as being free from the influence, control or determination of others. By implication, this means being independent in thought and in action, being self-directing. Affiliation, by contrast, can be defined as being associated with, or associating oneself with others, thus being guided by their influence (Websters, 1974).

Women seem to have more pronounced affiliative needs than men and affiliative motives more often seem to influence their behaviour in a variety of situations (Hoffman, 1972). Women also seem to have less confidence in their ability to perform various tasks, are more likely to seek help and reassurance of others, and are more compliant (Block, 1976). Mednick, Tangri and Hoffman (1975) propose that women are no less achievement-orientated than males, but that they seem to be attuned to the negative consequences of academic and occupational success as a result of the realities of their adult life situations. The rewards of high academic and occupational success are uncertain whereas their cost in terms of, for instance, affiliative loss, are real. Hoffman (1977) emphasises that it is not necessarily a case of girls being trained in dependence, but rather that girls are deprived of the training in independence given to boys.

Dependence includes aspects such as submissiveness, trusting behaviour, conventionality and group dependency. Independence, by contrast, refers to being assertive, competitive, suspecting, imaginative, analytical and self-sufficient (Cattell et al., 1974).

Dependence traits would be relevant in the traditional and stereotyped feminine role, whereas independence traits would be acceptable as representing the masculine role. Cattell et al. (1974) also state that, "Independence scores are significantly higher in men than in women" (P.120). Gilligan (1979) proposes that issues of dependency are experienced and handled differently by men and women because of socialisation processes. Women can experience problems with competitive achievement situations which can result in either a motive to avoid failure or in a fear of success (McClelland et al., 1953; McClelland, 1965; Horner, 1972).

In order to ascend into positions of higher status and responsibility, women workers will have to compete with men and give evidence of independent behaviour. Donnell and Hall (1980), interestingly enough, report that when compared with males, female managers in American companies are more concerned with opportunities for growth, autonomy and challenge, and that contrary to popular belief, females do not have a greater need to belong than do males. These results concur with statements made by Terborg (1977) and Hennig and Jardim (1978), namely that once women have achieved positions of responsibility there seems to be no difference between their performance and the performance of their male counterparts. Research also seems to indicate that women who successfully participate in a career and professional achievement situations are directed by internalised goals rather than by evaluative settings (Kipnis, 1974). It seems, therefore, that female achievement orientation in a work situation requires inner direction of the individual, expressed in action which is maintained, irrespective of external outcomes or societal expectations or standards. This requires a masculine role orientation involving independent behaviour (Helson, 1972). Psychological dependence, on the other hand, may inhibit a woman from accepting senior positions and may even prevent her economic independence in times of crisis, caused, for instance, by divorce or widowhood (Bernard, 1975).

4.2.2.4 Anxiety/adjustment

Anxiety can be defined as a state of conflict, apprehension or uneasiness, which relates to a concern about an event or future which is uncertain and which disturbs the individual (Websters, 1974).

Areas of conflict which can lead to anxiety in women are the following:

- (i) The emotional cost of success;
- (ii) Conflict between work and home roles;
- (iii) Poor socialisation which inhibits integration of various life roles;
- (iv) Poor socialisation in preparation for different life stages.

(i) Emotional cost of success

Horner (1972) suggests that women experience a fear of success because of the expected emotional costs of success achieved through competition. She found success anxiety to be present in women particularly when achievement was the result of competition. Maccoby and Jacklin (1974) propose that self-confidence is an achievement-related characteristic which consistently differentiates the sexes and that women have lower self-evaluations of their abilities than men. This can cause anxiety when dealing with competitive situations. Cattell et al. (1974) have found anxiety to correlate with emotionality, insecurity, guilt-proneness, tenseness, and frustration. Shyness, sensitivity to threat, dogmatism, and low self-sentiment integration, also contribute to the level of anxiety experienced. Women, who adhere to traditional female oriented behaviour, may experience conflict and anxiety in anticipation of negative social consequences when having to function in terms of achieving male orientated behaviour in the workplace. Pearlin (1975) states that women seem to experience more anxiety than men, as judged by psychophysiological signs like trembling hands, faintness, racing heart, and breathlessness. Women are also more subject to depression than are men.

(ii) Conflict between work and home roles

Stress-provoking circumstances may be due to conflicts experienced in handling work and family role demands by employed women. Pearlin (1975) found the likelihood of intense conflict between

work and maternal roles to differ for different age groups. Conflict seems to be greatest among younger women and to lessen with age. This is probably due to changing home demands which become less as the children grow older. Men, however, do not experience these role conflicts to the same degree as do women, because for them work is a primary role. Family responsibilities are delegated to women who accept this role as their primary responsibility.

(iii) Poor socialisation which inhibits integration of various life roles

The manner in which the individual integrates different life roles can affect her level of anxiety and potential state of depression.

The traditional training of women for their adult roles (marriage primarily, and work secondarily) is becoming less relevant in terms of present-day demands. Traditional socialisation includes neither a clear definition or perspective of the need to integrate roles, nor does it provide women with insight into what such integration entails. Many young women have an expectation of combining marriage and work roles. This expectation is based on role models who prove that dual-role commitments can be handled. The traditional anticipatory socialisation which does include a possible integration of different roles is, however, not orientated towards preparing women for meeting the personal adjustments required of them (Albrecht and Gift, 1975). This can result in women experiencing conflicts, the resolution of which depends on the individual's definition of the situation and her skill in achieving personal congruence in meeting the different role demands.

(iv) Poor socialisation in preparation for different life stages

The present-day stresses, experienced by women, can differ in terms of different life-stage demands and the manner in which a woman can cope with these demands. Most women are socialised to succeed and not to fail, particularly in meeting social obligations and expectations.

Failure can be defined in terms of meeting or not meeting expectations set by society (involving marriage and family care) and objectives set by the individual herself. When faced with potential failure, anxiety can be reduced by redefining the situation, or expectations, so as not to experience failure as defeat. Women, however, cannot always redefine their objectives or expectations in order to avoid failure; for instance, when not getting married at the socially expected age; when forced to choose between starting a family or furthering a career; when required to retire from a career due to husbands' transfer or retirement. These situations require adaptation or coping processes specific to the individual and her circumstances.

4.2.2.5 Coping processes

Coping strategies can be defined as behaviour processes aimed at minimising or eliminating psychological threat or stress (Lazarus, 1966).

Hall (1972) analysed coping behaviour exhibited by educated, employed women and identified three basic approaches, commonly used.

(i) Type One

The first approach involves dealing with the objective reality of the situation, as well as with the person's perceptions or feelings about the reality. This coping approach involves strategies similar to Goode's (1960) concept of role bargaining. An attempt is made to come to some agreement about the expectations emanating from the situation and the manner in which these expectations can be integrated with adaptations which would be acceptable to the individual (structural redefinition).

(ii) Type Two

The second type of coping involves changing one's personal concept of role demands to accommodate the demands of the situation (personal role redefinition). This coping approach accepts role conflict as a part of life. Dealing with conflict requires definition of role priorities which partially serves to alleviate individual anxiety and stress.

(iii) Type Three

The third coping approach is reactive role behaviour. Implicit in this approach is the assumption that the role demands are unchangeable and the individual is responsible for meeting these demands either passively or reactively. This coping approach can result in a feeling of having little control over one's life (Rotter, 1966), consequently little alleviation of stress and anxiety can be achieved.

Analysis of these three coping strategies indicates different interrelationships and transactions which occur between the individual (personality, attitudes, values) and her environment (home and work situations).

The first type of coping (structural redefinition) requires independent assessment of the role behaviours acceptable to the self and development of a new set of expectations which is acceptable to the self and which would meet the demands of the situation. This requires determining of role priorities; integration of different roles; changing societal definition of one's roles, and achieving support relationships from both work and family environments. In essence, this requires personal insight into the measure of integration between the individual's needs and adherence to socialised expectations. It also requires transcendence of personal or social role expectations. If this type of coping is achieved it represents a stable and more permanent resolution of role conflicts (Hall, 1972).

The second type of coping approach involves changing personal perceptions of role demands in contrast to changing both personal and environmental demands. Because of increased insight into what causes conflict, re-assessment of one's behaviour or external expectations is possible, thus reducing the amount of conflict experienced. This coping approach requires establishment of personal priorities in terms of different role demands and either keeping role demands clearly separate or ignoring some role expectations while fulfilling others. (This may involve deciding on sub-identity priorities for given circumstances.) Life demands can also cause some roles to be eliminated, for instance giving priority to home demands and foregoing opportunities to develop in the workplace. Hall (1972) states that, "Such sacrifices were often made reluctantly with a great sense of loss and inner conflict" (p.477). Depending on circumstances, women can selectively decide on whether self or social expectations should be emphasised and subsequently develop in terms of alternate role demands. Because of having to selectively decide how to meet all role requirements, this type of coping can result in personally experienced role pressures, particularly where environmental circumstances require role emphasis which conflicts with personal role choice.

The third type of coping approach involves attempts to please all parties by meeting all the role requirements. Because the status quo is accepted as unchangeable, no conscious strategy other than trying to work harder and subjecting the personal identity to meet the environmental demands, is followed.

A possible fourth type of coping approach can result in feelings of helplessness and, finally, giving up trying to meet role demands.

Hall (1972) proposes that the effects of the coping approach used may vary with the nature of a woman's roles and suggests that future research should consider under what conditions each of the three types of coping is successful. It is also possible that women may use different coping approaches at different stages in their adult lives.

Questions which require analysis are whether one coping strategy logically precedes another, (e.g. does personal role redefinition precede structural redefinition); or do women use different strategies under different circumstances (e.g. do they use personal role definition while their children are young, and structural redefinition when they are less bound by family commitments); or do women who differ in personality use different coping approaches? It seems probable that adherence to socialised gender behaviour patterns may affect the choice of the coping approach which is used. Women with a female role orientation, who are submissive and with a need to avoid failure, may utilise Type Three coping behaviour which may result in increased role overload and anxiety. Women with a masculine role orientation who are assertive may react more independently and thus utilise a structural redefinition, Type One, coping behaviour.

Although women are not socialised to anticipate and to adapt to failure in terms of their adult life experiences (Stein and Bailey, 1973), potential failure, and the associated stress and anxiety, are consistent and integral parts of the conflicts they have to deal with. Reactions to failure, which vary from giving up trying, conforming, through minor risk-taking to non-acceptance of failure, depend on the way in which each situation is experienced and evaluated by the individual in terms of personal securities, experiences and expectations. To assist women in their handling of conflicts caused by multiple role demands, and to enable work role development, greater insight is therefore required into the interrelationships which exist between the state of the individual (personality) and external stimuli (life and work context).

4.3 Theoretical conceptualisation

A primary objective of this study is to determine the interrelationships between aspects of personality, marital status, and age, in a sample of graduated, White, employed women.

A secondary objective is to obtain insight into work expectations, work satisfactions and life satisfactions of the sample of women, in order to develop a theoretical model of factors affecting female work involvement, from a life-span perspective.

Particular attention is given to the implications of gender role identity, significant life events (marriage, divorce, widowhood) and work involvement.

Attention is also given to adaptation (coping) approaches aimed at meeting situational demands which women use at different stages of life.

The personality measures applied in this study relate to:

- (a) sex role (masculine/feminine);
- (b) need to achieve/need to avoid failure;
- (c) anxiety/adjustment;
- (d) dependence/independence.

Recent re-conceptualisation of masculine/feminine behaviour in terms of universal co-existent orthogonal personality dimensions, each giving a low/high continuum, provides the theoretical frame of reference for this study. The Bem Sex Role Inventory (BSRI) (Bem, 1974) measures masculinity and femininity, yielding separate scores for each. The instrument furthermore enables classification of subjects in terms of high/low combinations of masculinity and femininity as depicted in the following figure:

		+ Masculine -	
Feminine	+	Androgynous high/high	Feminine low/high
	-	Masculine high/low	Undifferentiated low/low

FIGURE 2: Four-way classification of people on the BSRI

Traditional views of masculinity/femininity which classify people as either masculine or feminine, interpret psychological well-being in terms of adherence to appropriate masculine or feminine stereotypes (Broverman et al., 1972). Interpretation of psychological well-being in terms of psychological androgyny (Bem, 1975) is, however, operationalised in terms of high masculinity and high femininity (Bem, 1977). Psychological well-being thus relates to gender role transcendence instead of gender role adherence (Bem, 1974; Hefner et al., 1975; Rebecca et al., 1976). Societal adherence to the stereotypic

viewing of masculine and feminine role differentiation between work and home demands would suggest that successful career women could adhere to an androgynous sex role identity (high masculine and high feminine) and a masculine sex role identity which assists them in achieving role transcendence. This also seems implicit in Donnel and Hall's (1980) results which indicate that female managers score higher than males on both the social and work incentive dimensions. They ".... exhibit what we know to be a more mature and higher-achieving motivational profile than do males" (p.71).

The sex role identity of employed women can be expected to relate to different personality attributes which are traditionally depicted as typically masculine (agentic, instrumental) or feminine (communal or submissive). These relationships, with regard to the work environment, can be depicted as follows

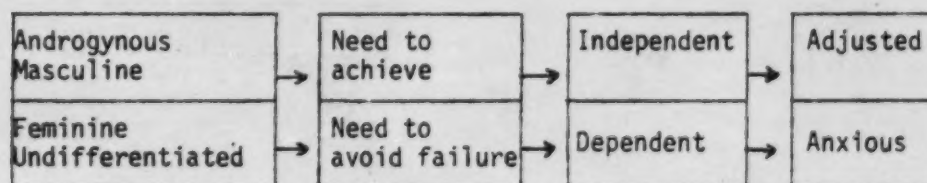


FIGURE 3: Possible relationships: sex role identity and personality attributes

Sex role identity can also have implications in terms of attitude to work and attitude to home responsibilities. Where the individual experiences congruence between sex role identity, work role and home environment, a high level of life satisfaction and positive self-esteem can be expected. Experienced congruence can, however, be affected both positively and negatively, by social and biological role expectations (age, marital status, family demands), depending on sex role identity and force of circumstances (e.g. economic need). Factors causing feelings of

incongruence can be both internal and/or external to the individual, relating to either work or life circumstances. The influence of the internal factor relates to a feeling of being integrated in terms of the "self" - thus relating to the number and congruence of various role demands made on the individual and her need to meet these demands (e.g. masculine need to achieve or feminine need to avoid failure). External factors may force the individual, however, to choose between life alternatives (e.g. having or not having children). The individual approach to coping with different life demands will, in turn, be affected by aspects like dependence/independence; anxiety/adjustment, life phase, and work as an important life event.

The interrelationships and areas to be covered in this study are defined schematically in the following figures (Figures 4, 5, and 6).

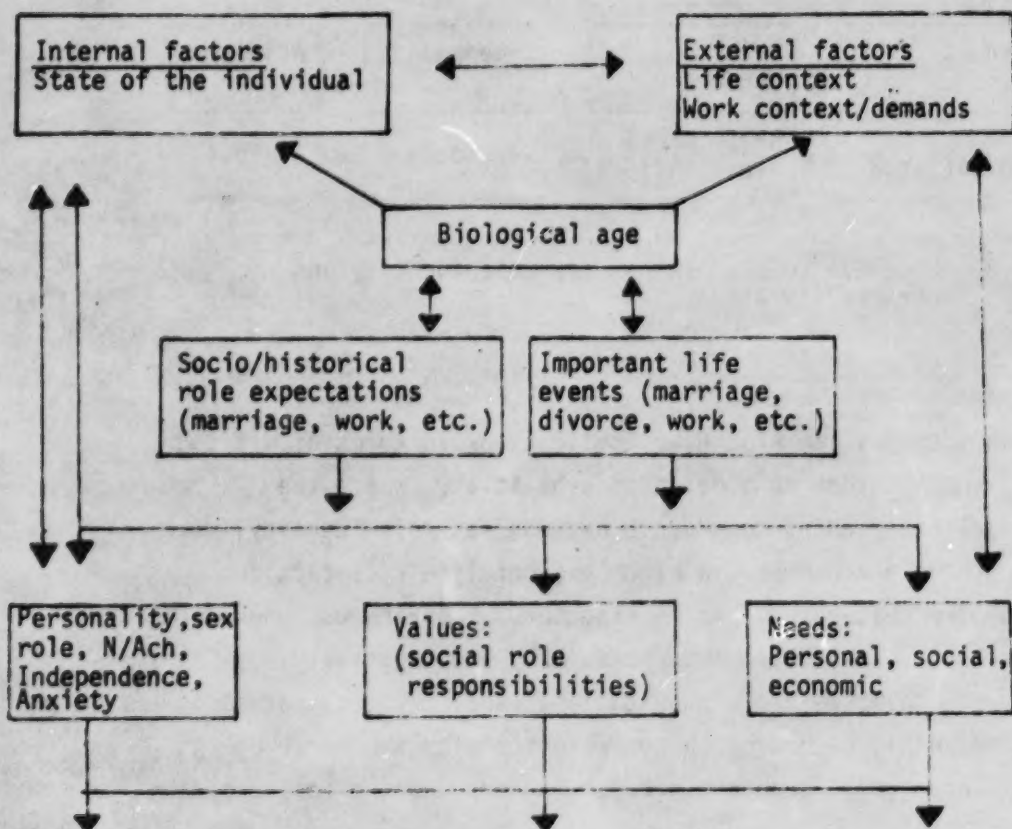
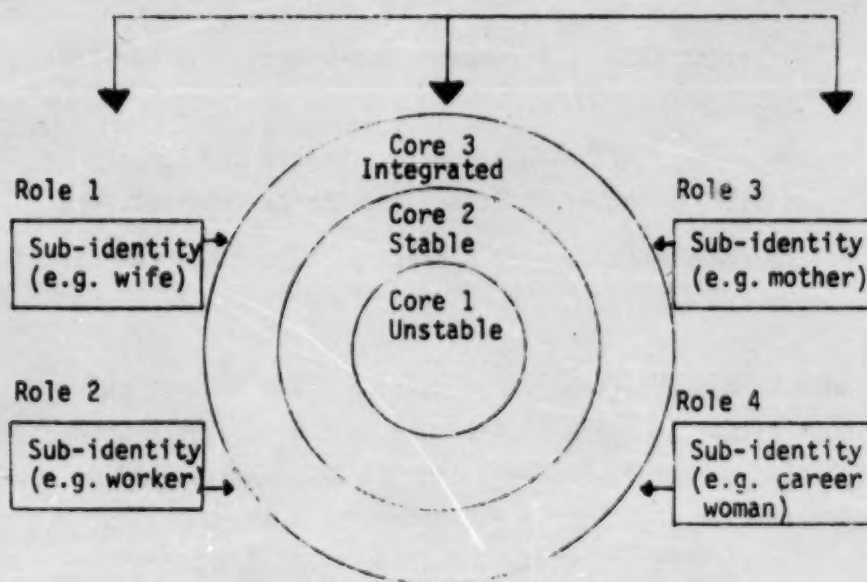


FIGURE 4: Factors affecting individual/environment interactions

It is accepted that the state of the individual is influenced by personality, values, needs, biological age, role expectations and life events. External factors which include actual life situation (e.g. single, divorced) and work environment (type, level, and job demands) relate to biological age, individual needs and state of the individual. The reciprocal interaction which occurs between the individual and the external factors (life and work) involves cognitive assessment of different role demands, in terms of values, preferences, freedom of choice, to achieve a balanced and integrated "self" (integration of sub-identities into a stable core - Figure 5).



Core 1 = Unstable Core

Core 2 = Cognitive stabilisation of core, though not necessarily according to personal needs

Core 3 = Cognitive integration of sub-identities to meet personal and environmental requirements.

FIGURE 5: Role and sub-identity integration

The different roles which the individual must, or wishes to fulfil result in a number of sub-identity(ies) which require integration. The integration of different role demands is based on normative concepts, personality, implications of biological and social events and personal needs. The choice of any adjustments which are required would involve the state of the individual, external requirements (work/family), biological age, socio-historical role expectations and what is, at that stage, experienced as an important life event. The size of the core and the measure of integration of different role sub-identities into a self-concept may affect the individual adjustment choice and coping strategies (Figure 6).

Life satisfaction would depend on:

- (i) different life role demands, experiences and personal needs;
- (ii) the measure of integration that exists between the "self" (consisting of sub-identities) and the environment, and
- (iii) the choice made in the process of adjusting personal and environmental needs.

Female work commitment requires a positive value of the "self" in the work situation (work self-esteem) which can occur when the properties of the environment and its expectations and demands are in accord with the capacities, motivations and behaviour of the individual. Inner direction, irrespective of external expectations, require a competency approach involving independence, self-confidence and ambition (masculine traits) and acceptance of work as an important life event. Anxiety and need to avoid failure (causing weak work self-esteem) can result when there is a poor fit between environmental opportunities and demands and the characteristics and capacities of the individual. The expectation that success in achievement-related situations may be followed by negative consequences may inhibit performance

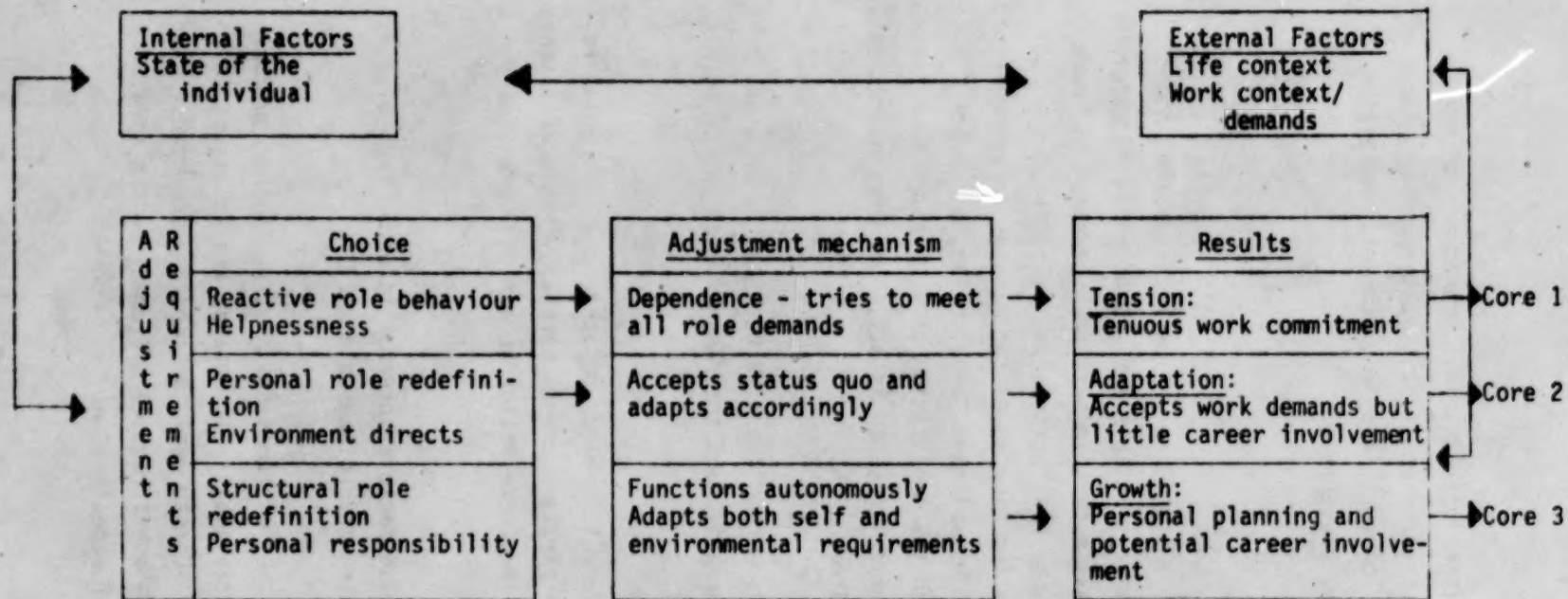


FIGURE 6: Coping strategies (Hall, 1972; Van Rooyen, 1980)

and levels of aspiration in individuals who adhere to the stereotypic perception of women as being dependent and non-competitive and for whom work is an environmental necessity rather than a personal preference.

4.4 Conclusion

Neugarten et al. (1965) state that, "There exists what might be called a prescriptive timetable for the ordering of major life events This normative pattern is adhered to, more or less consistently, by most persons in the society" (p.711). Whereas the "prescriptive timetable" for making career decisions by men is fairly well established, age-linking for career decisions of women and the implication of work as an important life event in the female life-span is still open to theoretical conceptualisation and research.

In analysing female work commitment, a need exists to study both the individual's personality and the demands made on her by her circumstances.

Women experience different barriers to achievement in the workplace. Some of these barriers are to be found in discriminatory practices at work while others reside in marital- and family-related demands.

There are, however, also factors internal to women themselves which may inhibit their work role development.

Traditional socialisation of women does not equip them sufficiently to integrate present-day adult role demands and to adjust to changing life events. Career decisions and the acceptance of work as important life event require different coping strategies at different stages of women's lives.

Sex role identity and self-image are important determinants of work behaviour. The value a woman places on the "self" determines her level of self-esteem. The lower the personal self-esteem the greater is the tendency to assume a socially prescribed role. Inclusion of so-called masculine traits like independence and assertiveness into women's self-assessments may positively influence their self-esteem at work and result in more achievement orientated behaviour. Women with a feminine sex role identity may experience anxiety when confronted with a need for competitive behaviour at work. Employed women with a masculine sex role identity can be expected to be more independent and adjusted than their feminine sex role identity counterparts.

Women who function more independently can be expected to have a stronger need to achieve than their dependent counterparts who may experience a need to avoid failure.

The subjects' work or career commitment and their coping with different life demands will be affected by:

- their level of independence and adjustment;
- their life phase; and
- their experience of work as a desired and important life event.

CHAPTER V

HYPOTHESES AND RESEARCH DESIGN

And we understand why all comparisons are idle which purport to show that woman is superior, inferior or equal to man, for their situations are profoundly different.

Simone de Beauvoir
The Second Sex (1965; p.591)

For a great many women the roads to transcendence are blocked: because they do nothing, they fail to make themselves anything. They wonder indefinitely what they could have become, which sets them to asking about what they are.

Simone de Beauvoir
The Second Sex (1965; p.242)

5.1 Introduction

Bennis (1966) stressed that the underlying spirit of scientific research is a spirit of enquiry. This approach is echoed by Bavelas (1978) who emphasises that research *should go beyond* the mere description of data and that the question of research does not only relate to starting with a broad theory or with a narrow, empirical topic. Research must be a blending of speculation and empiricism in which neither should dominate. In searching for general laws of behaviour, recent attention has been focused on the ongoing, multidirectional interaction between an individual and his or her environment, particularly the situations in which behaviour occurs (Magnusson and Endler, 1977). This approach emphasises that research must take simultaneous cognisance of personal factors, situational factors and the interaction between these two systems, which results in actual behaviour.

Measurement is necessary to empirically test any theory. Objective and verifiable measurement is particularly necessary for the assessment of personality characteristics in an applied setting. Research designs with rigorous research approaches, involving unambiguous definition of problems and relevant variables, the selection of variables which are easily observed and measured, are accepted as giving more reliable end results and are considered to have a greater probability for future verifiability (Argyris, 1968). These assumptions, although correct, may however result in the definition of research criteria which create a world in which the subject's behaviour is defined, controlled, evaluated and reported on, without necessarily giving enough recognition to the environmental influences operating beyond the confines of the temporary situations created for purposes of the research.

The nature of real-life situations and the nature of a research situation can act as important moderators of variables and changing relationships investigated in personality research. Research into factors affecting female work involvement and female career commitment therefore must recognise personality factors involved, which can be defined and evaluated, as well as the interaction occurring between the individual and her changing life situations.

Psychological assessment is based on assumptions about the validity of the measures used for a particular purpose. One assumption which is rarely questioned is that individual differences exist and that these can be measured. Characteristics like achievement motivation, assertiveness or passivity, competitiveness, anxiety are typical examples of measurable individual differences. Practices based on this assumption, particularly with regard to determining gender differences and the influence of varied circumstances on such differences, however, need further investigation. Such investigation is particularly necessary to determine what factors could serve as predictors of female work behaviour.

Psychological testing assists in determining ability (what the individual can do) but this does not necessarily indicate what the individual will do. Magnusson and Endler (1977) emphasise the need to investigate behaviour as being a function of latent dispositions (traits). Such dispositions describe the individual in terms of a personality profile based on different reaction patterns. Knowledge of individual dispositions can also assist in describing the individual in terms of differences in personality profile as this becomes evident in reacting to changing situations. Cattell (1979) emphasises that "..... in psychology before we can get anywhere we have to be able to describe a given personality at a given moment of its psychological states, in an accurately described environment, in meaningful measurements" (p.92 - emphasis in the original). This change of focus in personality

research, which includes an analysis of the dynamic interaction between a person and the prevailing situation, requires new empirical research strategies. The traditional techniques used, for instance, in trait data analysis (factor analysis, analysis of variance) are useful in that they give a better understanding of the individual in a given situation (the "what" aspect) but our understanding of the dynamic interaction which occurs (the "why" aspect) is still lacking. Approaches to studies of behaviour in natural settings in which analysis of situations and their possible effects on individual behaviour can be investigated, have been suggested. Alker (1977) and Pervin (1977) suggest, for instance, the use of idiographic descriptions while Mischel (1977) and Wachtel (1977) suggest the potential value of studying how and why individuals select situations, when they are free to make a choice.

Descriptions of persons interacting with their situation also need to be predictive. This requires incorporating personality and situational variables in an experimental design to assist with making predictions based on theory. Fiedler (1977), for instance, with his research in terms of a contingency model, emphasises the need to determine aspects of a situation which can cause different types of behaviours in different personalities and the need to assist the individual to match the situation to his or her personality. Research on situational leadership and the manner in which different individuals handle such leadership demands serve as an example.

The need exists to determine which aspects of different situations cause different behaviours in different kinds of personality. The research design of this study thus aims at the development of a conceptual scheme and a methodology to provide some answers to the question: "In what way, and why, do women differ in their experience and assessment of a work situation?" Characteristics of persons as well as of situations therefore need to be jointly

considered to enable some explanation to be proposed for actually observed behaviour.

Personality assessment can assist in describing individual differences in response to comparable situational demands. It is, however, also necessary to determine the psychological value of a situation for the individual, to assist in assessment of behaviour and of changing behaviour in non-comparable situations.

5.2 Research aims

The research approach followed for this study involves:

- (i) a theoretical conceptualisation of factors which may affect work involvement of graduate employed women;
- (ii) psychometric assessment of some personality dimensions of the subject group;
- (iii) assessment of individual responses to semi-structured and free response questions relating to how they experience environmental and work demands.

A focus on measures of personality and motivation aims at gaining greater insight into the social and psychological processes involved in accepting work role demands and in the development of a career. By examining the occupational involvement of women at different life phases and with different life and work experiences, some insight may be gained on how women with specific personality traits react to different experiences and how they cope with multiple role demands.

The research design of this study therefore involves firstly the testing of hypotheses, in order to draw conclusions or inferences for proof that different variables may affect female career commitment. Secondly, it is proposed that, based on the objective

results obtained through the testing of the stated hypotheses and substantiated with idiographic descriptions, a model can be developed, indicating the conflicts experienced by, and the choices required from, employed women at different life phases.

5.2.1 Research objectives

The following research objectives were proposed:

(i) To compare groups of graduated employed, White women with regard to sex role identity, personality, marital status, age, work interest and satisfaction with life;

(ii) To investigate the relationship between sex role identity and;

certain personality dimensions, namely

(a) need to achieve/to avoid failure,

(b) independence/dependence,

(c) anxiety/adjustment,

and certain life states, namely

(d) marital status,

(e) age,

in order to identify the implications of the interaction of these factors with

(f) work interest, and

(g) life satisfaction;

(iii) To develop, on the basis of the information obtained from (i) and (ii), a conceptual model of adult life phases applicable to graduated, employed, White women.

These objectives relate to the following general hypotheses:

(i) Personality differences will exist between subjects with a masculine sex role identity and subjects with a feminine

sex role identity. These differences relate to their need to achieve or need to avoid failure; their level of independence; and their level of anxiety;

(ii) A woman's work interest is influenced by her personality, marital status, age and life circumstances;

(iii) The level of congruence or goodness of fit experienced by a woman, in terms of her personal needs and values and the environmental demands, is influenced by the individual's satisfaction with life.

It is also proposed that, based on the results obtained on the interaction between personality differences, work interest and experiences of life satisfaction, a model of adult life phases, applicable to graduated, employed women can be developed. This model would include the implications of important life events (biological and social) which could influence work and career commitment of women at different age periods.

(The research sample consisted of 111 women employed by the South African Council for Scientific and Industrial Research.)

5.2.2 Masculinity and femininity subgrouping of sample

It seemed reasonable to assume that some of the subjects of the research sample would have a masculine sex role identity, and others would have a feminine sex role identity. The individual sex role identity would influence subjects in the manner in which they would handle different situational demands.

The Bem Sex Role Inventory (BSRI) was used to determine the sex role identity of the sample subjects.

Results for the 111 subjects on the BSRI are given in Table 5.1.

		<u>Masculinity (M) Score</u>	
		Above Median	Below Median
<u>Femininity (F) Score</u>	Above Median	Androgynous (A) 23 (20,72%)	Feminine (F) 34 (30,63%)
	Below Median	Masculine (M) 35 (31,53%)	Undifferentiated (U) 19 (17,12%)

Mean: M = 88,847; F = 94,514, based on total scale scores
 Sd. : M = 13,268; F = 13,118

TABLE 5.1: Distribution of BSRI for 111 subjects

This distribution shows that 58 subjects, or 52,25% of the total sample, indicated an adherence to a high masculine sex role identity (35 M and 23 A). These subjects can be expected to feel comfortable when confronted by a need to follow a behaviour approach typically accepted as being masculine (Bem, 1974). The 34 subjects who prefer a feminine sex role identity and the 19 subjects who show no preference for either a masculine or feminine sex role identity (Undifferentiated group) can be expected to feel uncomfortable when required to transcend the behavioural style which they prefer (47,75% of the total sample), (Bem, 1974).

Present-day work demands, particularly at higher job levels, can require women to function according to what is typically accepted as an independent, male, behaviour model.

The sample of 111 subjects was consequently divided into two groups, namely those who primarily identify with a masculine sex role identity (M+A); and those who do not primarily identify with a masculine sex role identity (F+U).

Further research objectives concentrate on a comparison of these two groups (M and F), although some interpretation of results in terms of the fourfold categorisation of the sample is also done.

5.3 Hypotheses

Hypotheses serve as the basic principles according to which research is conducted.

A hypothesis can be defined as a supposition, a proposition or a principle which is supposed, or taken for granted, in order to draw a conclusion or inference for proof of a point in question (Websters, 1974). A hypothesis, therefore, is something not proven, but assumed for the purpose of discussion or resolving of an argument.

Hypotheses proposed for this study were based on:

- (i) the theoretical conceptualisation of factors influencing women at work;
- (ii) a delimitation of the research area; and
- (iii) the schematic conceptualisation of transactions occurring between the individual and her environment.

The complexity inherent in the field of female career commitment and the lack of knowledge on the topic, requires, however, a blending of speculation and empirical evidence to enable the development of a theory albeit of modest scope.

5.4 Working hypotheses

The following working hypotheses were formulated to guide the statistical analysis of the data.

5.4.1 Hypothesis I

There will be a significant difference between the sample of employed women therein that some will have a need to achieve and others will have a need to avoid failure.

Rationale: The need to achieve (N/Ach) relates to an aroused drive for success (McClelland, Atkinson, Clark and Lowell, 1953). Research on achievement motivation has persistently been confronted by gender differences (Kipnis, 1974; Mehrabian, 1968, 1969; de Charms and Muir, 1978). Comparable studies of achievement motivation in females are neither consistent with the theory, with the findings for males, nor are they internally consistent with each other (Horner, 1978). The relationship between striving to achieve and vocational performance is, for instance, influenced by the way a woman perceives her behaviour as being appropriate to her social role (Wessels, 1975; Mednick, Tangri and Hoffman, 1975; Horner, 1972; French and Lesser, 1964; Alper, 1973; Lenney, 1977; Lemkau, 1979).

High achievers tend to be individuals with a stronger motive to achieve relative to their motive to avoid failure, than low achievers. All people may experience a need to achieve and an anxiety about possible failure. Both of these needs can, furthermore, be expressed in any situation when the individual realises that his or her performance will be evaluated with reference to some standard. Whereas one of these needs can produce a tendency to undertake the activity, the other can produce a tendency not to undertake the activity (Atkinson, 1957; Mehrabian, 1968; Atkinson and Raynor, 1978). Definitions of what may be appropriate areas of achievement for men and women, based on cultural stereotypes, may cause women to question the acceptability of high achievement related work goals and of succeeding in the masculine world of work (Wessels, 1975; Horner, 1972, 1978; de Charms and Muir, 1978; Mednick, 1979). It therefore seems reasonable to accept that some women in the sample will have a need to achieve while others will have a need to avoid failure.

5.4.2 Hypothesis II

Employed women with a masculine sex role identity will differ significantly from their feminine sex role identity counterparts therein that they will have a higher level of need to achieve.

Rationale: It is socially accepted that men will primarily display instrumental or agentic behaviour whereas women will primarily display expressive or communal behaviour, regardless of the nature of the situation (Bakan, 1966; Stein and Bailey, 1973; Erikson, 1950; Hoffman, 1972). Women typically set lower level work aspirations than do men (Stein, 1971; Stein and Bailey, 1973; Horner, 1972). Knowledge of what is traditionally acceptable gender role behaviour does not, however, necessarily lead to the adoption of, or identification with, such behaviour by all individuals. Women who identify with a masculine behaviour role may be more inclined to strive towards achievement, particularly in their work, than would be the case with women who identify with a feminine behaviour role (Stein and Bailey, 1973; Baruch, 1967; Urberg and Labouvie-Vief, 1976; French and Lesser, 1964; Hjelle and Butterfield, 1974; Zastrow and Chang, 1977). It can therefore be assumed that women with a masculine sex role identity will have a greater need to achieve than their feminine sex role identity counterparts.

5.4.3 Hypothesis III

Employed women with a feminine sex role identity will differ significantly from their masculine sex role identity counterparts therein that they will have a high level of need to avoid failure

Rationale: Women, traditionally, are seen as having high affiliation needs. This may influence their behaviour when achievement is required. If women experience anxiety about competitiveness and its aggressive overtones which underlie achievement orientated behaviour, then they may experience a

tendency not to undertake such behaviour (Hoffman, 1972; Baruch, 1967; Alper, 1973). Discouragement of aggression in girls and women, and encouragement of dependency, may cause women with a feminine sex role identity to avoid achievement orientated behaviour, thereby to avoid social sanctions (Heilbrun, Piccola and Kleemeier, 1975). Women may, instead, try to conform by achieving what society encourages them to do. This involves being firstly successful wives and mothers, and only secondly, achieving at work (French and Lesser, 1964; Wessels, 1975; Costrich et al., 1975). Women who are motivated to achieve, but who experience a poor fit between their personal values and needs, and the expectations of society, may experience conflict (Horner, 1972; Burnstein, 1963; Greenwald and Ronis, 1978; Heilbrun, Piccola and Kleemeier, 1975; Mednick and Tangri, 1972). It can be assumed that women with a feminine sex role identity may experience a need to avoid failure in resolving conflicting personal needs and in meeting work demands and social expectations.

5.4.4 Hypothesis IV

Employed women with a masculine sex role identity will be significantly more independent than employed women with a feminine sex role identity.

Rationale: Independence scores are found to be higher for men than for women (Cattell et al., 1974; Cattell and Kline, 1977). Qualities of independence, initiative and assertiveness are thought of as unfeminine in women (Maccoby, 1963; Hoffman, 1972; Komarovsky, 1973). Female sex role identity influences women's assessment of correct behaviour and affects their consequent occupational involvement (Komarovsky, 1973; Monahan et al., 1974; Epstein, 1971). Women who have succeeded in masculine professions, however, function in a manner comparable to that of males (Hennig and Jardim, 1978; Terborg, 1977). Women with a masculine

sex role identity are also more comfortable than women with a feminine sex role identity in handling situations requiring assertive, aggressive and dominant (independent) behaviour (Bernard, 1980; J. Bernard, 1976; Bachtold, 1973; Bachtold and Werner, 1973; Redfering, 1979). It can therefore be assumed that subjects of the present study who have a masculine sex role identity can be expected to be significantly more independent than their feminine sex role identity counterparts.

5.4.5 Hypothesis V

Employed women with a feminine sex role identity will be significantly more anxious than employed women with a masculine sex role identity.

Rationale: Women who defy conventions can expect to pay a price in increased uncertainty and anxiety (Maccoby, 1963; Horner, 1971). Traditionally, women are socialised to expect adult life roles which require from them dependent and nurturant behaviour. In meeting their home and family demands, women can, however, experience a lack of control over what they personally may want to do (Midgley and Abrams, 1974; Horner, 1971). A woman can, depending on her personality and circumstances, experience conflict and a greater or lesser degree of poorness of fit between personal needs and environmental demands. Women with a masculine sex role identity can be expected to be more independent and assertive and consequently more capable of dealing with conflicting demands. Women with a feminine sex role identity, by contrast, can be expected to be less assertive and thus experience increased feelings of anxiety when having to resolve conflicting role demands (Maslow, 1939; Marshall and Wijting, 1980; Block et al., 1973; Kelly and Worrel, 1977). Women's self-confidence (or lack thereof) is both personal and situationally related (Lenney, 1977; Redfering, 1979; Jordan-Viola, 1976). It can therefore be assumed that the woman with a feminine sex role identity will be significantly more anxious than her masculine sex role identity counterpart when required to deal with conflicting role demands.

5.4.6 Hypothesis VI

Employed women with a masculine sex role identity will be significantly more interested in a work role than employed women with a feminine sex role identity.

Rationale: A woman's sex role identity is an important attribute affecting vocational development (Bieri, 1960, Kagan and Moss, 1962, Harren et al., 1978, Wessels, 1975; Almquist and Angrist, 1970; Vogel et al., 1975; Mednick, 1979; O'Leary, 1974; Schein, 1976). Feminine women tend to see success in terms of home-making duties rather than in occupational achievement (Rosen and Aneshensel, 1978). Women with non-traditional sex role identities attach greater importance to personal achievement than do women with traditional sex role identities (Lipman-Blumen, 1972; Mednick, 1979). Role conflicts experienced by working women are related to their view of the appropriateness of traditional role behaviour (Gordon and Hall, 1974; Miller et al., 1979; Waite and Stolzenberg, 1976; Waite and Spitze, 1979; Hall and Gordon, 1973). It can thus be assumed that women with non-traditional (masculine) sex role identities would be significantly more interested in a work role than women with traditional (feminine) sex role identities.

5.4.7 Hypothesis VII

There is no significant difference between the satisfaction with life of employed women with a masculine sex role identity and employed women with a feminine sex role identity.

Rationale: Changing social conditions and life patterns of women have led to greater acceptance of a "self" orientation (which can include work involvement) as opposed to a more specific "other" orientation (traditional feminine role adherence) (Gump, 1972).

Women increasingly plan to combine work and marriage and increased striving for achievement does not necessarily result in reduced feminine interest in, and skill in marital and maternal roles (Huston-Stein and Higgins-Trenk, 1978). The timing of marriage, childbearing and work, however, has causal implications for life satisfaction of women (Kohn and Schooler, 1973; Riley, 1976; Hall, 1972; Spitze and Waite, 1979). Satisfaction with life of employed women must be accepted as being the result of different interacting variables which has specific personal significance for individuals at different life stages. Sex role identity may affect satisfaction with life but it will not be the primary influencing variable.

5.4.8 Hypothesis VIII

Satisfaction with life is the result of interactions occurring between several variables. These variables are:

- (i) sex role identity;
- (ii) marital status;
- (iii) need to achieve, or need to avoid failure;
- (iv) age;
- (v) attitude to work;
- (vi) independence;
- (vii) anxiety.

Rationale: Early adulthood seems to be a watershed period in a woman's life because many decisions concerning marriage, work and childbearing, taken at this stage are irreversible and have long-term consequences (Huston-Stein and Higgins-Trenk, 1978). Individual differences in sex role identity may influence the need for, and the timing of, marriage and motherhood. The fulfilment of marriage and motherhood roles may, in turn, affect individual career options and aspirations (Hoffman, 1974; Stein, 1971; Stein and Bailey, 1973; Baruch, 1973).

Overall, marriage is associated with higher life satisfaction than the single state. Motherhood and childcare in mid-life may, however, decrease satisfaction with life because of role overload and role conflicts (Hall, 1975; Bernard, 1975; Hoffman and Nye, 1974; Huston-Stein and Higgins-Trenk, 1978).

Employed women's satisfaction with life specifically relates to the congruence or goodness of fit experienced between the "self" and the environment. Satisfaction with a work role relates to the congruence experienced between the occupation and a desired situation, and to the assessment of the psychological value of the experienced situation.

5.5 Propositions for life phase model

The complexity of the relationships between variables which affect female work and career commitment, creates a need for a model of adult life phase experiences for employed women which encompasses all these variables. This objective generates its own propositions which are formulated as follows:

5.5.1 The life experiences of employed women differ from the life experiences of employed men (Hennig and Jardim, 1978; Neugarten, 1969; Pearlin, 1975).

5.5.2 Marriage and work need not be mutually exclusive for women (Pearlin, 1975; Huston-Stein and Higgins-Trenk, 1978; Ferree, 1979).

5.5.3 Employed women must integrate four major life influences in order to achieve reconciliation between different role demands. These influences are:

- (i) socio-cultural;
- (ii) Biological;
- (iii) Individual psychological;
- (iv) Situational.

5.5.4 Employed women deal with significant life events according to personal patterns of socialisation (Albrecht and Gift, 1975; Atkinson and Litwin, 1960; Levitt, 1971).

5.5.5 The vocational interests and work involvement of employed women are affected by their:

- (i) sex role identity;
- (ii) age.

(Lowenthal, 1977; Hennig and Jardim, 1978; Rossi, 1980).

5.5.6 Female career commitment results when work becomes a central life interest for the individual (Dubin, 1956; Rabinowitz and Hall, 1977; Maurer, 1969).

5.6 Conclusion

The issue of female work and career commitment and progress is complex and not directly comparable to the issue of male vocational involvement and career progress. Traditional socialisation practices which differ for the two sexes can influence the individual's approach to achievement orientated work role demands. The required assertive, independent male approach applicable to work role demands contrasts with the submissive, nurturant feminine approach expected from a wife and mother. Present-day women who are expected to combine both home and work roles can be expected to experience a greater or lesser measure of congruence or goodness of fit between the different role demands, depending on:

- (i) their sex role identity;
- (ii) their personal needs; and
- (iii) their specific life circumstances.

Overall satisfaction with life will, however, be influenced by the interactions between different variables and not necessarily related to the sex role identity of the individual.

Critical life events like marriage, having children, divorce, widowhood and work challenges can influence work commitment.

Coping approaches used to resolve role conflicts are influenced by:

- (i) the sex role identity of the individual;
- (ii) the biological demands;
- (iii) the environmental and situational demands;
- (iv) the adult life period in which the individual finds herself.

5.7 Research approach

5.7.1 Sample composition

The research sample of 111 graduated, White women, employed by the Council for Scientific and Industrial Research (CSIR) had all completed at least one university degree. They differed in terms of their age, marital and maternal status, field of specialisation and level of functioning.

The composition of the sample, in terms of biographical information relevant to this study, is as follows:

5.7.2 Age

Age Interval	Frequency f	$\bar{X}$	sd
20 - 24	19	30,99	7,97
25 - 29	36		
30 - 34	17		
35 - 39	11		
40 - 44	8		
45 - 49	9		
50 - 54	7		
55 - 60	4		

TABLE 5.2: Age distribution of sample group

The modal age of the group falls between 25 and 29 years of age.

5.7.3 Level of education

B-degree		B.Hons-degree		M-degree		D-degree	
Science	Arts	Science	Arts	Science	Arts	Science	Arts
16	27	19	13	17	12	5	2

TABLE 5.3: Educational status of the sample group

Studying for a degree can be accepted as indicative of academic interest which leads to the pursuit of a more specialised career than that for which a school-leaving certificate equips the person. The degree a woman holds can, in turn, serve as an indication of the direction and type of her career interest.

The inclusion of graduated women only in this study was therefore based on the assumption that such subjects would have greater clarity about a possible work career than could be the case for non-graduates.

5.7.4 Occupational status

The subjects were employed by different Research Institutes where their qualifications and experience could best be applied.

Although functioning as separate units, all CSIR Institutes use the same job ranking structure consisting basically of research, technical and administrative job categories. Subjects from twelve different Institutes participated in the study and a distribution of the ranks involved is given in Table 5.4.

Institute	Technical ranks					Research ranks					Admin ranks			Total
	AT	ATO	TO	STO	CTO	ARO	RO	SRO	CRO	SCRO	CLERK	AO	SAO	
1	1	2	1											4
2		1		2		1						1	1	6
3			2	1		1	2	1	1					8
4		1				6	5	3						15
5			2	1	1	1	2	2						9
6		1	1	1			1	1	1					6
7		2	3	1	1				1			1		9
8			8	4				2	1					15
9			1											1
10	1	2	4		2	5	5	3	2		1			25
11			1	1	1	4	2	2		1				12
12			1											1
TOTAL	2	9	24	11	5	18	17	14	6	1	1	2	1	111

TABLE 5.4: Institute, job rank* and number of subjects

* Addendum 1

Managerial demands, including planning, organising, controlling, and advising activities, are particular requirements in senior level job categories. These include senior technical officer (STO), chief technical officer (CTO), senior research officer (SRO), chief and senior chief research officer (CRO and SCRO), and senior administrative officer (SAO) jobs.

Sixteen subjects occupied senior technical jobs; 21 subjects occupied senior research jobs and one subject held a senior administrative level job (38 subjects). Subjects from four Institutes represented 60,36% of the total sample group (Institutes 4, 8, 10, 11).

5.7.5 Marital/maternal status

The total group consisted of 66 married women, 35 singles, 3 widows, and 7 divorcees. The marital/maternal status and work hours of subjects are given in Table 5.5.

Marital status	Total	Full-day work	Part-time work
Single without children	35	35	-
Single with children	-	-	-
Married without children	31	30	1
Married with dependent children	29	17	12
Married with independent children	6	5	1
Divorced without children	1	1	-
Divorced with dependent children	4	4	-
Divorced with independent children	2	2	-
Widowed without children	-	-	-
Widowed with dependent children	-	-	-
Widowed with independent children	3	3	-
TOTAL	111	97	14

TABLE 5.5: Marital/maternal status and hours of work of sample

5.7.6 Work status of husband

The work status of husbands of the married subjects was as follows:

Status	Total
Professional, e.g. university qualified and professionally employed	51
Non-professional: not university qualified	13
Student	2
Retired	-
TOTAL	66

TABLE 5.6: Work status of husbands of married subjects

5.7.7 Obtaining sample subjects

The following procedure was followed in recruiting subjects:

- (i) Permission was obtained from the CSIR executive to conduct a research project involving graduated female employees of the CSIR;
- (ii) Potential subjects were then located from personnel record print-outs supplied by the Administrative Services Department of the CSIR;
- (iii) Permission was obtained from the different Directors of the CSIR Institutes, employing potential subjects for the study, to request the co-operation of the women to participate in the study;

- (iv) A letter requesting their co-operation was sent to 150 suitably qualified subjects. Attached to the letter was a biographical questionnaire and a stamped, addressed envelope; (Addendum 2)
- (v) On return of the completed questionnaire, appointments were made by telephone with each individual to arrange for testing and an interview;
- (vi) Where no response had been obtained after a set return date, personal requests were made to obtain the subjects' co-operation;
- (vii) All interviews were arranged to be completed within six months of the commencement of the field-work of the study (mid-April 1979 - mid-October 1979).

The percentage response to the request for co-operation was good. Of the 150 requests sent out a return of 112 was obtained (74,6%). One subject wanted to participate but because of language problems no test results could be obtained from her. An interview was conducted, although this information was not included in the final analysis.

The size of the sample was restricted by the fact that interviews and testing were done on a personal basis by one person (researcher) only. The interviews lasted between one and a half to two hours and followed a semi-structured approach (Addendum 3).

5.8 Measuring instruments

Prior to appointment within any CSIR Institute, applicants are requested to participate in a testing procedure to determine various personality qualities including intellectual ability. This information is confidential and thus was not available for use in the present study. In the assessment procedure, certain minimum requirements with regard to intellectual ability have to

be met before appointment to any job can be proposed. This ensures that only candidates with above average intellectual abilities are appointed. In the choice of personality measures for the current research, therefore, no measures of intellectual ability were included. The measuring instruments used were chosen so that maximum information within the time available for personal interviewing and testing could be obtained.

5.8.1 Criteria for selecting the measuring instruments

The primary criteria for the selection of the measuring instruments were their reliability, validity and their suitability for testing the research hypotheses.

Valid translation of behaviour into trait scores, which can be quantified, objectively interpreted, and statistically analysed, requires the use of reliable measuring instruments with convergent and discriminant validity. These requirements are particularly important for the present study where, due to the interaction between variables, behaviour profiles could result which are not necessarily a true reflection of the personality predisposition and/or work involvement of the individual concerned.

The measuring instruments also had to be self-report inventories which could be completed by individuals in a relatively short time period and which could be easily scored by hand.

The objectives of the study were to determine whether relationships exist between sex role identity and personality attributes like the need to achieve, level of independence and adjustment of the women concerned.

The tests used in this study thus consisted of:

- (i) a measure of sex role identity (the Bem Sex Role Inventory) (1974);
- (ii) a personality inventory (the Sixteen Personality Factor Questionnaire, developed by Cattell et al.) (1974);
- (iii) a measure of achievement motivation (the Mehrabian Measure of Achieving Tendency for Females) (1969).

None of these tests was developed in South Africa, but the Cattell 16 PF and the Mehrabian need to achieve instruments have been standardised by the Human Sciences Research Council (HSRC) within the context of the South African culture. The instrument proposed by Bem was selected on the basis of test reviews, personal correspondence with the author and discussions with fellow researchers.

5.8.2 The Bem Sex Role Inventory (BSRI)

The BSRI is an instrument designed to measure both masculinity and femininity as reflection of the degree to which an individual endorses personal qualities associated with the male and female roles respectively. Masculinity and femininity are treated as independent dimensions. A further concept of psychological androgyny, including both masculinity and femininity, has been proposed as a relevant dimension in research on sex identity (Rebecca, Hefner and Oleshansky, 1976; Pleck, 1975, Bem, 1974).

The BSRI is composed of 60 Likert-type items describing different personality characteristics which individuals are asked to endorse on a scale ranging from 1 (never or almost never true) to 7 (always or almost always true). The 60 single-word items can be divided into 3 scales of 20 items each and which forms separate masculinity, femininity and social desirability scales. Scores

on the masculinity and femininity subscales reflect the degree to which an individual personally endorses qualities associated with masculine and feminine standards.

The statistical independence of these scales have been validated by Bem (1974), Gaudreau (1977), Waters, Waters and Pincus (1977), Walkup and Abbott (1978), Moreland, Gulanick, Montague and Harren (1978). A critical assessment of psychological androgyny research and theory (Locksley and Colten, 1979; Pedhazur and Tetenbaum, 1979) is assessed and discussed by Bem (1979). She states that "..... individuals of different sex roles are not viewed here as differing primarily in terms of how much masculinity or femininity they possess, but rather they are viewed as differing more fundamentally (a) in the content of their beliefs about what the two sexes are like and (b) in their cognitive schemata for processing gender-related information, and hence in the perceptual salience and cognitive availability of gender and gender-related concepts as dimensions for processing incoming information" (p.1053).

Rather than selecting items on the basis of their differential endorsement by males and females, masculine and feminine scale items were selected by Bem (1974) on the basis of their sex-typed social desirability. This feature is particularly of value in a study involving only women. Research done by Storms (1979) furthermore indicates a possible relationship between the BSRI classification of people in terms of their sex role identity and Kohlberg's (1966) theory that sex role identity guides the individual's modelling of sex role stereotypes.

The BSRI yields a flexible four-way classification of individuals in terms of their levels of masculinity and femininity. Using an additive median-split scoring system (proposed by Bem, 1977), median scores for the total sample on both the masculine and feminine scales are computed. Individuals scoring above the

median are designated as high on that dimension and those scoring below the median are designated low. The four categories obtained are defined as Masculine (M), Androgynous (A), Undifferentiated (U), and Feminine (F).

The inventory is quick and easy to complete (takes approximately 20-25 minutes), easy to score and can be administered in either a group or individual setting.

Because the BSRI was only developed recently, there are as yet few reliability or validity results available (Gaudreau, 1977). Bem (1974), however, reported good internal consistency, test-retest reliability and very low correlations between the masculinity and femininity scores. Test-retest reliability was high with correlation coefficients ranging from 0,89 to 0,93 for scores of one normative sample (Bem, 1974). Gaudreau (1977) in a factor analytic study of the BSRI reports that males scored significantly higher on masculinity than females (9,29; $p < 0,001$); females scored significantly higher on femininity than males (8,77; $p < 0,001$) and androgyny scores for males were significantly more masculine than those for females (4,38; $p < 0,001$). These results were also replicated in research done by Moreland, Gulanick, Montague and Harren (1978).

5.8.3 The Sixteen Personality Factor Questionnaire (16 PF)

The 16 PF was developed by Cattell and Eber in 1964 and represents an attempt to examine what they see as the total human "personality sphere". This totality includes factors that survived extensive empirical validation and measurement (Cattell et al., 1974; Cattell and Dreger, 1977; Cattell, 1979). Multivariate analysis, and in particular, factor analysis, plays a central role in Cattell's theory of personality. However, because Cattell's theory is empirical, the substantive implications of the theory strongly depends on the appropriateness of the factor-analytic procedures employed in the identification of the principle constructs used (Wiggins, 1973). Because of the complex

procedures used by Cattell for factor rotation and the time it takes to do the analyses, few researchers outside his own laboratory replicate his studies.

There is, however, little disagreement on the current status of Cattell's theory of personality (Bavelas, 1978) and tests developed by him and his co-workers are used world-wide. Researchers, however, do tend to differ in their measure of acceptance of Cattell's conceptual hypotheses (Becker, 1960; Norman, 1963; Adcock et al., 1974). The 16 PF has been translated and standardised for South African circumstances by the Human Sciences Research Council. No reliability and validity results for South African population groups are, however, as yet available. Norm tables (reported as stens) for different population groups are available (Maas, 1975) but separate norms were computed for the sample used in this study. (Addendum 4.)

The 16 PF is a broad-based personality measure available in six parallel forms (A B C D E F) each measuring the same sixteen personality dimensions. For purposes of this study form A was used. This form, developed for assessment of normally functioning, literate adults, consists of 187 multiple choice items, is easily administered, and takes between 40-50 minutes to complete. It yields quantified measures along the 16 bipolar personality dimensions, each comprising from ten to thirteen items. The following factors are included:

Factor	Description	Items
A	Reserved/Outgoing	13
B	Dull/Bright	13
C	Affected by feelings/Emotionally stable	13
E	Humble/Assertive	13
F	Sober/Happy-go-lucky	13
G	Expedient/Conscientious	10
H	Shy/Venturesome	13
I	Tough minded/Tender minded	10
L	Trusting/Suspicious	10
M	Practical/Imaginative	13
N	Forthright/Astute	10
O	Self-assured/Apprehensive	13
Q1	Conservative/Experimenting	10
Q2	Group dependent/Self-sufficient	10
Q3	Undisciplined self-conflict/Controlled	10
Q4	Relaxed/Tense	13
	TOTAL	187

TABLE 5.7: Bipolar scales and item numbers of the 16 PF *

It is furthermore possible to divide the sixteen factors into four less specific subscales, namely Extraversion/Introversion; Adjustment/Anxiety; Sensitivity/Tough Poise; Subduedness/Independence. These secondary factors can be seen as broader influences contributing to the primary factors and accounting for their being correlated (Cattell et al., 1974, p.112). Table 5.8 indicates the second-stratum factors and the chief primary factors involved.

* The first term describing each scale indicates a (-) pole while the second term indicates a (+) pole.

Factor index	Description	Primary factors involved
Q _I	Invia/Exvia (Introversion/Extroversion)	A ⁺ , E ⁺ , F ⁺ , H ⁺ , Q ₂ ⁻
Q _{II}	Adjustment/Anxiety	C ⁻ , H ⁻ , L ⁺ , O ⁺ , Q ₃ ⁻ Q ₄ ⁺
Q _{III}	Pathemia/Cortertia (Sensitivity/Tough poise)	A ⁻ , I ⁻ , M ⁻ (and for women E ⁺ , L ⁺)
Q _{IV}	Subduedness/Independence	E ⁺ , L ⁺ , M ⁺ , Q ₁ ⁺ , Q ₂ ⁺

TABLE 5.8: List of second-stratum factors of the 16 PF test

For the purposes of the present study, norms for the sample group were correlated on the 16 primary factors. Two second-stratum factors, namely Q_{II} - adjustment/anxiety, and Q_{IV} - subduedness/independence, were also identified for the present sample.

Specific information on validity of the 16 PF questionnaire is given in the 16 PF Handbook (Cattell et al., 1974; p.30-39). Results discussed by Cattell indicate a correlation value of 0,60 for the 16 PF as predictor with a criterion of school achievement. Test-retest over a six-day interval for 146 adults yielded reliability coefficients ranging from 0,76 to 0,93 for all subscales of the A+B forms of the 16 PF. Test-retest over a two-month interval for 132 students yielded reliability coefficients ranging from 0,63 to 0,88 for all subscales of the A+B forms of the 16 PF.

5.8.4 The Mehrabian Measure of Achieving Tendency for Females

The conception of human behaviour as being dynamic and representative of interaction between the individual and his/her past, present and anticipated life events has resulted in renewed research on achievement motivation (de Charms and Muir, 1978).

The most commonly employed measure of achievement is the Thematic Apperception Test (TAT), developed by McClelland, Atkinson, Clark and Lowell (1953) and further researched and developed by Atkinson and Feather (1966). According to these authors there are, theoretically, two major types of people, namely (a) the type of person for whom the need to achieve is greater than the fear of failure (N/Ach), and (b) the type of person for whom the fear of failure is greater than the need to achieve (FF). Each of these individuals is motivated by the desire to achieve a certain pleasant affect; the difference being, though, that for the one, pleasant affect lies in achieving whereas for the other, pleasant affect lies in avoiding a sense of failure. Achievement in a person's life can be viewed as a series of interrelated activities resulting in accomplishments which are acceptable in the culture in which the individual has been socialised. Career achievement by women, specifically in non-traditional (masculine) work areas, provides a potential situation of conflict, relating to fear of social rejection. However, as Raynor (1978) states, more insight is required as to the determinants of motivation for striving in life over time. "What is needed is a theory that is firmly grounded in a consideration of the relevant individual differences concerning how particular individuals will act in particular stages of striving in life over time" (Raynor, p.218). Whereas fear of social rejection may be important at one life phase, this may not necessarily hold true at another phase of life.

The Thematic Apperception Test (TAT) is a projective test involving assessment and coding of responses by subjects to imaginative stories. It yields valuable results when used appropriately (Atkinson and Raynor, 1978, p.6), but it requires specific skills in its administration and interpretation.

To overcome problems encountered in the administration and scoring of the TAT measure of need to achieve, and to assist in obtaining test-retest reliability in measuring achievement, more traditional psychometric instruments were developed. The Mehrabian scales, measuring achieving tendency for males and females separately, are well-known instruments in this area (Mehrabian, 1968). These scales consist of verbal items designed to discriminate between high and low achievers. High achievers are accepted as individuals who have a stronger motive to achieve relative to their motive to avoid failure, while low achievers have a stronger motive to avoid failure relative to their motive to achieve. Each scale consists of 26 items yielding an approach and an avoidance score (hope for success versus fear of failure). Subjects respond to each item on a five-point scale which ranges from "very strong agreement" to "very strong disagreement".

Factor analyses and principal component solutions of two applications of the female scale to samples of female undergraduates produced 13 factors. For both samples, the first factor accounted for no more than 14 per cent of the total variance. Factors yielded, included independence, choice of achievement-related activity, feelings related to success and failure, preference of high or low risk situation, preference for activity involving competition and skill versus co-operation and chance, and choice of, and persistence at, demanding tasks.

Ten-week test-retest results yielded a product-moment correlation coefficient of 0,72 for the female scale, while internal consistency reliabilities obtained on the female scale by Griffore and Lewis (1978) was 0,73. Mehrabian (1968) reports a correlation of 0,17 of the female achievement scale with the TAT ($p < 0,05$ ($df = 109$) ($p.500$).

Mehrabian (1968) reports on research results involving problem solving behaviours and high and low achievers which produced a 0,41 correlation ($df = 33$; $p < 0,05$) between perseverance and high achievers. Latta (1978), using factor analysis as a basis for defining motive scales, compared the construct validity of different motive combinations of the Mehrabian scale. He obtained optimal construct validity for a measure of hope of success - fear of failure scale scores (0,48, $p < 0,03$).

The Mehrabian scale for females was adapted and translated by the Human Sciences Research Council of South Africa in 1975. Use of the scale for research purposes was granted for this study but standardisation for South African situations has not been completed. Choice of the Mehrabian measuring instrument was in particular guided by its ease of administration and scoring, the short time required to complete the scale (20-30 minutes), its description as "..... one of the most well-known measures of achievement motivation" (Griffore and Lewis, 1978) and its potential value in assisting in analysis of environmental influences affecting female cognitive assessment of achievement needs.

5.8.5 Biographical information

In addition to obtaining information with standardised measuring instruments further information pertinent to each individual, relating to her work and life context, had to be obtained.

Attempts were made to standardise completion of this information as much as possible:

- (i) All subjects were requested to participate in the study on the basis of the personal, standardised letter. The letter contained a brief outline of the purpose of the study and indicated that the Director of the particular institute had agreed to allow subjects to participate in the study during work hours;

- (ii) Subjects were asked to complete the biographical questionnaire and to return it before a set date in an enclosed stamped and addressed envelope;
- (iii) The researcher administered all tests and conducted all the interviews on a personal basis;
- (iv) Use was made of a semi-structured interview schedule to assist in standardisation of information gathered. Subjects were encourage, however, to elaborate on questions asked. This resulted in spontaneous discussions relating, for instance, to conflicts experienced by different subjects in terms of their varying life experiences, personal needs, expectations and aspirations;
- (v) Subjects were also asked to elaborate on the type of work they were doing, how they experienced their work, future work expectations and home/work role demands. The job demands were assessed in terms of job complexity evaluation scales based on the job evaluation method developed by the National Institute for Personnel Research (Van Rooyen, 1977) (Addendum 5);
- (vi) All tests were handscored by the researcher. The scoring was checked for accuracy by an independent researcher prior to data analysis.

5.9 Analysis procedure

5.9.1 The Bem Sex Role Inventory (BSRI)

The BSRI and its psychometric characteristics are described elsewhere (Bem, 1974). For purposes of the present study, this instrument was scored according to the improved scoring methods recommended by Bem and Watson (1976) and Bem (1977). This involves dividing subjects at the median score (median-split) of both the masculinity and femininity scales and classifying

(a) those subjects scoring above the masculinity median and below the femininity median as "masculine" (M); (b) those who score above the femininity median and below masculinity median as "feminine" (F); (c) those who score above both medians as "androgynous" (A); and (d) those who score below both medians as "undifferentiated" (U).

5.9.2 The 16 PF Questionnaire

Norm tables are available for South African female groups (HSRC: Institute for Psychometric research, 1978). These groups consist however, of first year university students as one group and females, general public (rural) as a second group. The sample subjects of this research study cannot be seen as strictly comparable to either of these two groups. A new norm table was thus compiled for the sample of 111 graduated, working women on form A of the 16 PF (see Addendum 4). A further factor analysis and target rotation was done to obtain two second-stratum factors, namely factors QII and QIV.

5.9.3 The Mehrabian Measure of Achieving Tendency

This scale yields an approach and an avoidance score (hope of success and fear of failure) which is indicative of the level and direction of achievement motivation. Mehrabian items are written so that on half of the items a positive response indicates higher motive to succeed than motive to avoid failure. Scores on the scale can range from +39 to -39.

5.9.4 Analysis techniques

Analysis of variance is a reliable method of determining the pooled error variance (S^2) of results. It also provides the F-test which is useful in a preliminary inspection of obtained results. Analyses of variance were thus conducted to determine:

- (a) the significance of the main effects of Sex Role Identity (Factor A) and Achieving Tendency (Factor B) with regard to subduedness/independence, adjustment/anxiety, marital status and age;
- (b) the significance of the interaction effects of factors AxB with regard to subduedness/independence, adjustment/anxiety, marital status and age.

Two- and four-way non-orthogonal analyses of Variance were done, using the "Generalised Linear Interactive Modelling Program" (GLIM) developed by the Royal Statistical Society of London.

The Scheffé test for making a posteriori multiple comparisons was used to locate significant differences of paired means implicit in significant ANOVA outcomes for sex role identity and measure of independence. The Scheffé test allows testing of different comparisons, picked out by inspection, with the protection that the probability of finding any erroneous significant results is at most 0,05. (Addendum 7.)

Chi-square analyses were done to determine significant differences of frequencies between groups. The Chi-square test evaluates whether or not empirically obtained frequencies differ significantly from expected values (Blalock, 1972). Chi-square analyses were done on sex role identity and career expectations; choice of life style; job complexity; job satisfaction and work interest. Analyses were also done on work interest and age groupings.

5.9.5 Levels of significance

The criterion for significance chosen for the interpretation of the results was taken throughout as $p = 0,01$ or $p = 0,05$. However, for discussion purposes, $p = 0,10$ was also taken cognisance of.

CHAPTER VIRESULTS

Our relationships to this world are like a mathematical function that has its graph, its curve.

Elizabeth Mann-Borghese
Ascent of Woman (1963; p.213)

The individual life history of woman - because she is still bound up in her female functions - depends in much greater degree than that of man upon her physiological destiny; and the curve of this destiny is much more uneven, more discontinuous, than the masculine curve.

Simone de Beauvoir
The Second Sex (1965; p.541)

6.1 Introduction

The ultimate objectives of this research were:

- (a) to identify personality factors which may affect women at work and in their work interest;
- (b) to identify environmental implications affecting female career commitment at different stages of their adult lives; and
- (c) to develop a conceptual model of female vocational behaviour.

In order to attain the research objectives, different hypotheses were proposed (Chapter V). Information obtained on the sample of 111 subjects and their results on the various measures were analysed, applying different methods of information analysis. The analysis of standardised measuring instruments was done according to the procedures proposed by the compilers of the instruments (see Chapter V).

Information, obtained by means of the biographical questionnaire, and during the interview, was systematised and structured to enable coding for computerisation. Statistical procedures involved analysis of variance to determine the effects of several variables. These variables were sex role identity, achievement needs, independence, anxiety, marital status and age. Chi-square analyses were done to determine significant differences of frequencies between:

- (i) sex role identity groups and the subjects' work interest and life satisfaction responses; and
- (ii) age groups and work interest and life satisfaction responses.

Use was made of case studies (Addendum 6) to elaborate on the statistical results obtained. The case studies also assisted in clarifying some of the effects of environmental influences on individual attitudes towards work involvement and satisfaction with life in general.

6.2 Hypotheses

The sample of 111 employed women were divided into two groups (masculine and feminine) on the basis of their BSRI results (see Chapter V).

It was hypothesised that these two groups would differ significantly in terms of:

- (i) their level of need to achieve (Hypotheses II and III);
- (ii) their level of independence (Hypothesis IV);
- (iii) their level of anxiety (Hypothesis V);
- (iv) their work interest (Hypothesis VI).

6.2.1 Hypothesis I

Hypothesis I predicted that there would be a significant difference between the sample of employed women therein that some would have a need to achieve and others would have a need to avoid failure.

Scores obtained for the 111 subjects on the Mehrabian Female Scale of a tendency to achieve were evaluated. A distribution of the results obtained, giving the median, mean and standard deviation for both the need to achieve and need to avoid failure scores is given in Table 6.1.

Need	No. of subjects	Median	Mean	sd
Need to Achieve	57	14	32,495	10,360
Need to Avoid Failure	54	6	17,820	8,492

TABLE 6.1: Distribution of Mehrabian N/Ach scale results
(n = 111)

Discussion: 51,35 per cent of the total sample of 111 subjects indicated a need to achieve, whereas 48,65 per cent of the total sample indicated a need to avoid failure.

The Mehrabian scales, used as alternatives to the projective measures of achievement motivation developed by McClelland et al. (1953), are designed to discriminate between high and low achievers. It is postulated that high achievers are individuals who:

- (i) Have a stronger motive to achieve relative to their motive to avoid failure;
- (ii) Have more positive feelings aroused by success than negative feelings aroused by failure;
- (iii) Have realistic aspiration levels;
- (iv) Prefer intermediate risk situations;
- (v) Have a more distant future perspective;
- (vi) Can delay gratification;
- (vii) Prefer achievement related activities;
- (viii) Are more independent (Mehrabian, 1968).

Low achieving (need to avoid failure) subjects are characterised by:

- (i) A preference for activities which are inherently gratifying;
- (ii) Having no particular interest in activities leading to personal future gain;
- (iii) Having a greater susceptibility to conformity pressures;
- (iv) Having more negative feelings being aroused by failure than positive feelings aroused by success.

The question of sex differences is accepted as a persistent and not yet resolved problem in research on achievement motivation (Kipnis, 1974; de Charms and Muir, 1978), and requires further research, particularly in terms of work motivation. Women are traditionally expected to set lower work aspirations than men (Stein and Bailey, 1973; Horner, 1972). This may be explained by the concept of role congruence/incongruence which, for women, involves the assumption that not being competitive and independent and displaying low achievement performance in the workplace would be consistent with the traditional female role. Situations requiring achievement-related and competitive behaviour, of individuals for whom this would be incompatible with sex role appropriate behaviour, can result in experiences of avoidance needs (need to avoid failure). A study, involving only women in situations requiring achievement-orientated work behaviour, may assist in clarifying some of the problems inherent in the achievement motivation field. Assessment of differences found in the need to achieve for women with a masculine sex role identity and women with a feminine sex role identity may contribute to insight required in female achievement motivation.

Conclusion: Results obtained on the Mehrabian scale of need to achieve shows that 51,35% of the total sample have a need to achieve and 48,65% have a need to avoid failure. Assessment of the significance of this difference for subjects with a masculine or feminine sex role identity was proposed under Hypotheses II and III.

6.2.2 Hypotheses II and III

Hypotheses II and III predicted that a significant relationship exists between a subject's sex role identity and her need to achieve or her need to avoid failure. It was predicted that:

- (i) subjects with a masculine sex role identity would be significantly higher on a need to achieve (N/Ach), whereas
- (ii) subjects with a feminine sex role identity would be significantly higher on a need to avoid failure (N/AvF).

Table 6.2 gives the cell identification and frequencies of the sample of 111 subjects on the BSRI and the N/Ach-N/AvF.

	BSRI				
	Masculine (M)	Andro- gynous (A)	Feminine (F)	Undiffer- entiated (U)	Total
N/Ach	27	15	12	3	57
Mehrabian N/AvF	8	8	22	16	54
TOTAL	35	23	34	19	111

TABLE 6.2: Cell identification and frequencies: BSRI and N/Ach-N/AvF (n = 111)

Chi-square analysis of the measures of need achievement and BSRI sample data (Table 6.3) revealed significant differences.

	BSRI				Total
	M	A	F	U	
N/Ach	27	15	12	3	57
N/AvF	8	8	22	16	54
TOTAL	35	23	34	19	111

$$\chi^2 24,222; \text{ df } 3; p = 0,01$$

TABLE 6.3: Chi-square analysis: Need achievement and BSRI sample data (n = 111)

Discussion: These results indicate that the sample group, differentiated in terms of the four BSRI-groups, exhibit significant differences in terms of need to achieve.

When reducing the four BSRI groups to two main groups, namely a masculine and a feminine group, the following distribution is obtained. (Table 6.4)

	BSRI		Total
	M + A	F + U	
N/Ach	42 (72%)	15 (28%)	57
Mehrabian N/AvF	16 (30%)	38 (70%)	54
TOTAL	58	53	111

TABLE 6.4: Frequencies: BSRI - 2 groups and N/Ach - N/AvF (n = 111)

Seventy-two per cent of the subjects who identify with a masculine and androgynous role indicate a need to achieve, whereas 70% of the subjects who identify with a feminine and undifferentiated role indicate a need to avoid failure.

Chi-square analysis of need achievement and need to avoid failure results obtained for masculine and feminine subgroups gave the following results (Table 6.5).

Need	Masculine	Feminine	Total
	f_e M + A	f_e F + U	
Achieve	29,78 / 42	27,21 / 15	57
Avoid Failure	28,21 / 16	25,78 / 38	54
TOTAL	58	53	111

χ^2 21,571; df 1; $p = 0,01$; f_e = expected frequency

TABLE 6.5: Chi-square analysis: Need achievement and masculine/feminine subjects ($n = 111$)

Conclusions: These results substantiate the assumption that women within this sample who can be differentiated in terms of their sex role identity can also be differentiated in terms of their need to achieve.

Women with a masculine sex role identity show a significant need to achieve. Women with a feminine sex role identity show a significant need to avoid failure. Hypotheses II and III are therefore supported.

6.2.3 Hypothesis IV

Hypothesis IV predicted that employed women with a masculine sex role identity would be significantly more independent than employed women with a feminine sex role identity. This hypothesis was based on research results indicating that:

- (i) female sex role images affect women's assessment of correct behaviour and consequent occupational involvement (Mednick, 1975, 1979; Epstein, 1971); and
- (ii) that women with a masculine identity are more comfortable than women with a feminine identity, in handling situations requiring aggressive and dominant behaviour (Bernard, 1980; Redfering, 1979).

Subjects with a need to avoid failure can be expected to be more dependent than their counterparts with a high need to achieve, and to display communal and conforming behaviour (subdued behaviour) which is more typically associated with the feminine role. Subjects with a strong need to achieve can, by contrast, be expected to be more independent and to display agentic behaviour more typically associated with a masculine role.

Results obtained with the 16 PF Questionnaire (Cattell et al., 1974; Cattell and Kline, 1979) indicate differences between male and female samples on the independence second stratum factor (Q_{IV}). Males obtain higher scores than females. This indicates males to be more independent and females to be more subdued.

A subduedness/independence differentiation of the subject group was obtained in terms of their 16 PF results. Factor analysis was done to calculate factor scores for the 16 PF and target rotations were conducted to determine second-stratum factors.* It was hypothesised that the second-stratum factor Q_{IV} (subduedness/independence) could relate to a variance in masculinity and femininity surface traits. Results for factor Q_{IV} (subduedness/independence) in terms of its source traits are given in Table 6.6.

Factor	Cattell	Current sample
E ⁺	,58	,40
L ⁺	,37	,28
M ⁺	,54	,42
Q ₁ ⁺	,74	,37
Q ₂ ⁺	,37	,32

TABLE 6.6: Factor correlations: subduedness/independence (Q_{IV})
(subfactor scores)

An independence score is obtained by individuals with the following profile:

- E⁺ = Dominance or ascendance (assertive, aggressive, competitive, stubborn)
- L⁺ = Suspicious (dogmatic, suspicious of interference, demands people to accept responsibility for errors)
- M⁺ = Imaginative (unconventional, imaginative, enthusiastic)
- Q₁⁺ = Experimenting (analytical, free-thinking)
- Q₂⁺ = Self-sufficient (resourceful, prefers own decisions).

A two-way analysis of variance was done to determine the effects of achievement and of sex role identity on independence.

Results of this analysis are given in Table 6.7.

Source of variation	SS	Df	MS	F	p
N (A/Ach)	10,15	1	10,15	12,87	0,01
V	14,52	3	4,84	6,14	0,01
N/V	4,56	3	1,52	1,93	
ERROR		103	,7886		
TOTAL	29,23	110			

N = Achievement

V = BSRI

N/V = N/Ach /BSRI Interaction

TABLE 6.7: Results of two-way ANOVA. The effects of N/Ach and BSRI and N/Ach, BSRI Interaction on measure of Independence (n = 111)

These results are significant for both achievement need and for BSRI data (sex role identity) of the sample group.

A further subdivision of the sample group for age and marital status was done because these could influence the level of subduedness (dependence) or independence (Hennig and Jardim, 1978; Komarovsky, 1973). The age subgroupings are given in Table 6.8.

Age	Number	% of Total
Group 1 (21 - 24)	19	17,18
Group 2 (25 - 28)	31	28,00
Group 3 (29 - 40)	35	31,51
Group 4 (41 - 60)	26	23,41

TABLE 6.8: Subgrouping of sample in four age groups (n = 111)

A four-way ANOVA was then done involving the following variables: Achievement Need (N); Sex Role Identity (V); Age (A); and Marital Status (M). Results are given in Table 6.9.

Component	SS	Df	MS	F	p
N (N/Ach)	9,69	1	9,69	22,81	0,01
A	2,71	3	0,90	2,13	
V	16,03	3	5,34	12,59	0,01
M	0,18	1	0,18	0,43	
NA	1,49	3	0,50	1,17	
NV	0,82	3	0,27	0,64	
NM	0,47	1	0,47	1,12	
AV	5,04	9	0,56	1,32	
AM	1,26	3	0,42	0,99	
VM	0,50	3	0,17	0,39	
NAV	2,91	4	0,73	0,71	
NAM	0,19	3	0,06	0,15	
NVM	0,03	2	0,02	0,04	
AVM	4,12	5	0,82	1,94	
NAVM	0	0	0	0	
ERROR		66	0,42		
TOTAL	73,45	110			

N = Achievement orientation

A = Age

V = BSRI

M = Marital status

TABLE 6.9: Results of four-way ANOVA: The effects of N/Ach, BSRI, age and marital status on measure of independence (n = 111)

The effect of level of achievement on independence; and of sex role identity on independence is highly significant ($p = 0,01$). The interaction of age, sex role identity and marital status approaches significance but only at $p = 0,1$. The effect of age on independence also approaches significance but only at $p = 0,1$. Although not significant, age, therefore, does show some effect on independence.

A two-way ANOVA on the significant factors, namely achievement and sex role identity, was done to obtain an estimate of their effects. The two-way ANOVA results are given in Table 6.10.

Component	SS	Df	MS	F	p
N (N/Ach)	9,685	1	9,685	21,90	0,01
V	16,88	3	5,628	12,73	0,01
ERROR	46,88	106	0,4423		
TOTAL	73,45	110	0,6678		

N = N/Ach

V = BSRI

TABLE 6.10: Results of two-way ANOVA: The effects of N/Ach and BSRI on measure of independence ($n = 111$)

Need to achieve subjects are significantly more independent than their need to avoid failure counterparts.

Estimates of difference between the different BSRI groups and the estimated error of the difference between the BSRI groups on the measure of independence are given in Tables 6.11 and 6.12. A significant difference was obtained for the feminine group (F) on the measure of independence.

	F	A	M	U
F	-			
A	,7833	-		
M	,9440	,1793	-	
U	,8102	,2179	,2088	-

TABLE 6.11: Estimates of difference between BSRI groups on measure of independence

	F	A	M	U
F	-			
A	,1846	-		
M	,1793	,1709	-	
U	,2179	,2088	,1925	-

TABLE 6.12: Estimated error of difference between BSRI groups on measure of independence

Bounds for the significance of the estimates of difference between BSRI groups (Table 6.11) were obtained, using the Scheffé multiple comparison method (Addendum 7) at an overall 95% significance level (Table 6.13). Results show a clear difference between the F group and the three remaining groups (M, A, U). Differences between the M, A and U groups are considerably below the corresponding bounds and are therefore not significant.

Analysis, using the Scheffé multiple comparison method of determining bounds for differences gave the following results:

	F	A	M	U
F	-			
A	,525	-		
M	,486	,510	-	
U	,547	,619	,594	-

TABLE 6.13: Scheffé bounds for differences between groups on measure of independence

These results show feminine sex role identity subjects to be significantly more dependent than all the other sex role identity categories.

Discussion: Independence, coupled to a need to achieve can assist women in meeting work-related demands and in handling work and home role conflicts. Women, however, who experience qualities of independence, initiative and assertiveness as being unfeminine, may experience increasing stress when confronted by situations requiring them to transcend socialised role behaviour. Results contained in Table 6.9 indicate that a substantial percentage of the total variance can be ascribed to the sex role variables (16,03/73,45). Tables 6.11, 6.12 and 6.13, in turn, indicate the main variance to relate to the feminine parameter of the sex role variables.

The results of the undifferentiated group raise certain questions. This group is characterised by low/low scores on both masculinity and femininity scales. The small size ($n = 19$) of this cell restricts further analyses of these results. A need exists, however for further investigation of the actual implications relating to an undifferentiated sex role identity (Bernard, 1980). An impression gained during this study, would indicate the undifferentiated subject to be an individual confronted with a conflict in terms of role demands for which a moratorium period of 'no choice' is adopted, in order to reassess the situation. A typical example of the conflicts experienced by undifferentiated subjects is found in subject 62 (Addendum 6). Further research on subjects with an undifferentiated sex role identity, particularly in terms of their experience of conflict situations is indicated.

Conclusion: Results indicate that a feminine sex role identity is significantly aligned to dependence whereas a masculine sex role identity is significantly aligned to independence. Hypothesis IV is thus confirmed.

6.2.4 Hypothesis V

Hypothesis V predicted that subjects with a feminine sex role identity would be significantly more anxious than those with a masculine sex role identity.

The rationale for this hypothesis is found in statements that women who defy conventions pay a price in anxiety (Maccoby, 1963; Horner, 1971); that women experience a lack of control over their lives (Horner, 1971; Midgley and Abrams, 1974) and that women with a dependent life approach can experience more stress than their independent counterparts (Maslow, 1939; Block et al., 1973).

The differentiation of the group in terms of an adjustment/anxiety index was done according to the Q_{II} second order factor of the 16 PF. Table 6.14 gives the factor correlations obtained for the source traits combining to form factor Q_{II} and the results obtained for the current sample.

Factors	Cattell	Current Sample
C^-	-,86	-,59
H^-	-,46	-,31
L^+	,55	,63
O^+	,82	,78
Q_3^-	-,44	-,43
Q_4^+	,82	,69

TABLE 6.14: Factor correlations: Adjustment/Anxiety (Q_{II}) (subfactor scores)

Subjects presenting a personality profile high in anxiety, would thus be characterised by the following traits:

- C⁻ = Emotional instability, affected by feelings (emotional when frustrated, easily perturbed, worrying);
- H⁻ = Shy (withdrawn, retiring when facing opposite sex, restrained, rule-bound);
- L⁺ = Suspicious (dogmatic, suspicious of interference);
- O⁺ = Apprehensive (worrying, anxious, depressed, sensitive to people's approval or disapproval);
- Q₃⁻ = Undisciplined self conflict (uncontrolled, follows own urges);
- Q₄⁺ = Tense (frustrated, driven, overwrought, fretful).

A two-way analysis of variance was done to determine the effects of the need to achieve and sex role identity on the measure of anxiety.

Results of this analysis is given in Table 6.15.

Source of variation	SS	Df	MS	F	p
N (N/Ach)	3,30	1	3,30	3,05	0,1
V	6,10	3	2,10	1,95	
N/V	2,19	3	,73	,68	
ERROR		103	1,08		
TOTAL	11,59	110			

N = N/Ach

V = BSRI

N/V = N/Ach and BSRI interaction

TABLE 6.15: Results of two-way ANOVA: The effects of N/Ach and BSRI on measure of anxiety (n = 111)

These results are not significant. The level of achievement, however, approaches significance ($p = 0,1$).

Because age and marital status could be accepted as variables which need to be taken account of, a four-way ANOVA was done. The independent variables were, as for Hypothesis IV, achievement need, sex role identity, age and marital status, with measure of anxiety as dependent variable. Results are given in Table 6.16.

Component	SS	Df	MS	F	p
N(N/Ach)	0,95	1	0,95	1,25	0,1
A	1,19	3	0,40	0,52	
V	5,04	3	1,68	2,21	
M	0	1	0	0	
NA	9,02	3	3,01	3,95	
NV	1,78	3	0,59	0,78	
NM	0,94	1	0,94	1,23	
AV	3,77	9	0,42	0,55	
AM	6,16	3	2,05	2,70	
VM	1,80	3	0,60	0,79	
NAV	1,64	4	0,41	0,54	
NAM	1,11	3	0,37	0,48	
NVM	0,90	2	0,45	0,59	
AVM	4,68	5	0,94	1,23	
NAVM	0	0	0	0	
ERROR		66	0,76		
TOTAL	89,24	110,00			

N = Need achievement

V = BSRI groupings

A = Age

M = Marital status

TABLE 6.16: Results of four-way ANOVA: The effects of N/Ach, BSRI, age and marital status on measure of anxiety ($n = 111$)

No clear linear model seemed to hold for this analysis. Significant results were approached by the age and need to achieve interaction ($p = 0,1$). Separate analyses for age groupings (see Table 6.8) were therefore done.

A three-way analysis of variance, split on age, produced the following results: (Tables 6.17, 6.18, 6.19, 6.20)

Component	SS	Df	MS	F	p
N (N/Ach)	1,72	1	1,72	10,14	0,01
V	0,43	3	0,14	0,84	
M	3,36	1	3,36	19,80	0,01
NV	0,24	1	0,24	1,41	
NM	2,01	1	2,01	11,86	0,01
VM	0,95	1	0,95	5,60	0,05
NVM	0	0	0	0	
ERROR		10	0,17		
TOTAL	10,39	18			

N = Need..

V = BSRI

M = Marital status

TABLE 6.17: Results of three-way ANOVA: split on age:
Group One (Age 21 - 24 years)
The effect of N/Ach, BSRI and marital status on
the measure of anxiety ($n = 19$)

For this group (age 21 - 24), consisting of 11 single and 8 married subjects, significant results were obtained for (i) need to achieve; (ii) marital status; (iii) the interaction between need to achieve and marital status; and (iv) the interaction between sex role identity and marital status.

Component	SS	Df	MS	F	p
N (N/Ach)	4,90	1	4,90	3,85	0,1
V	3,32	3	1,11	0,87	
M	0,44	1	0,44	0,35	
NV	0,17	2	0,09	0,07	
NM	0,30	1	0,30	0,23	
VM	2,89	3	0,96	0,76	
NVM	0,19	2	0,09	0,07	
ERROR		17	1,27		
TOTAL	33,84	30			

N = Need/Ach

V = BSRI

M = Marital status

TABLE 6.18: Results of three-way ANOVA: split on age:
Group Two (Age 25 - 28 years)
The effect of N/Ach, BSRI and marital status on
the measure of anxiety (n = 31)

This group (age 25 - 28) consisted of 17 single, 13 married and 1 divorced subjects. For this group there were no significant results, although the need to achieve approached significance ($p = 0,1$).

Component	SS	Df	MF	F	p
N(N/Ach)	3,46	1	3,46	3,54	0,1
V	3,22	3	1,07	1,10	
M	1,90	1	1,90	1,95	
NV	0,49	2	0,25	0,25	
NM	0,01	1	0,01	0,01	
VM	0,46	2	0,23	0,24	
NVM	0	0	0	0	
ERROR		24	0,98		
TOTAL	33,00	34			

N = Need/Ach

V = BSRI

TABLE 6.19: Results of three-way ANOVA: split on age:
Group Three (Age 29 - 40 years)
The effect of N/Ach, BSRI and marital status on
the measure of anxiety (n = 35)

This group (age 29 - 40) consisted of 6 single, 26 married, and 3 divorced subjects. There were no significant results although need to achieve approached significance ($p = 0,1$). This is comparable to the results obtained for Group Two.

Component	SS	Df	MS	F	p
N(N/Ach)	1,03	1	1,03	4,42	0,1
V	1,09	3	0,36	1,56	
M	0,55	1	0,55	2,35	
NV	1,82	2	0,91	3,91	0,05
NM	0,31	1	0,31	1,31	
VM	2,42	2	1,21	5,19	0,05
NVM	0	0	0	0	
ERROR		15	0,23		
TOTAL	10,71	25			

N = N/Achieve

V = BSRI

M = Marital Status

TABLE 6.20: Results of three-way ANOVA: split on age:
Group Four (Age 41 - 60 years)
The effect of N/Ach, BSRI and marital status on
the measure of anxiety (n = 26)

This group (age 41 - 60) consisted of 1 single, 20 married, 3 divorced, and 2 widowed subjects. Significant results were obtained for the interaction between the need to achieve and sex role identity; and between sex role identity and marital status. Although not significant, the need to achieve results approached significance ($p = 0,1$ approaching $p = 0,05$).

Further analysis of need to achieve results for age groups Two and Three was undertaken. Results of this analysis are given in Table 6.21.

Component	SS	Df	MS	F	p
N (N/Ach)	8,36	3	2,79	2,96	0,05
ERROR	58,49	62	0,94		
TOTAL	66,85	65			

N = Need to achieve

TABLE 6.21: Results for one-way ANOVA: 2 Age Groups:
(Groups Two and Three combined) (Ages 21 - 28 years)
Need to achieve and the measure of anxiety (n = 66)

Discussion: The sample groups in terms of age are small and no final deductions are therefore possible. However, different interaction patterns with the different independent variables for the four age groups were identified.

The results of Groups One and Four (youngest and oldest) are comparable in the sense that for both groups significant results were obtained relating to sex role identity, marital status and need to achieve. It was hypothesised that a feminine sex role identity would contribute to greater anxiety than a masculine sex role identity. An analysis of sex role identity in different individuals in the four age groups was therefore undertaken (Table 6.22).

Group	Masculine	Androgynous	Feminine	Undifferentiated
Group One : 21-24 yrs (N = 19)	5	5	6	3
Group Two : 25-28 yrs (N = 31)	9	8	12	2
Group Three: 29-40 yrs (N = 35)	11	3	11	10
Group Four : 41-60 yrs (N = 26)	10	7	5	4
TOTAL	35	23	34	19

TABLE 6.22: BSRI distribution for four age groups

According to this distribution, the feminine subjects of Groups One and Four ($F = 6$ and 5 ; $U = 3$ and 4), were fewer than the masculine subjects ($M = 5$ and 10 ; $A = 5$ and 7). In actual numbers the feminine subjects of Groups 2 and 3 were greater ($F = 12$ and 11 ; $U = 2$ and 10) and nearly equal to the masculine subjects ($M = 9$ and 11 ; $A = 8$ and 3).

Analysis of the means for factor Q_{IV} (anxiety) obtained for the four age groups furthermore indicates Groups One and Four to be less anxious compared with Groups Two and Three, who seem to be more anxious (Table 6.23).

	Means: Factor Q_{II}	
	-	+
	Adjustment	Anxiety
Group One	-,388	
Group Two		,417
Group Three		,334
Group Four	-,302	

TABLE 6.23: Mean scores: Four age groups: Factor Q_{II}

Conclusion: The hypothesis that feminine sex role identity subjects would be more anxious than their masculine sex role identity counterparts, must be rejected. It furthermore seems that the relationship between the need to achieve and anxiety found for Groups Two and Three does not relate to their sex role orientation but could be ascribed to other factors, possibly their life or work situations. Case studies supplied in Addendum 3 could give some insight into the type of problems encountered by women at different life phases which could result in experiencing increased anxiety. Further research on anxiety experienced by employed women is, however, necessary.

6.2.5 Hypothesis VI

Hypothesis VI proposed that the employed woman with a masculine sex role identity would be significantly more interested in a work role and in a career than the employed woman with a feminine sex role identity. To test this hypothesis, an initial rating on career expectations contained in the biographical questionnaire was obtained from all subjects. During the personal interview, the implications of career expectations were discussed in more detail and a final rating was recorded on a three-point scale (expects to follow a career, does not expect to follow a career, uncertain).

Chi-square analysis was done on the BSRI-sample data and the career expectations response. This analysis revealed that women with a masculine sex role identity were significantly more career orientated than their feminine counterparts, who were more uncertain (Table 6.24).

Sample Response	M	A	F	U	Total
Yes	19	13	7	3	42
No	3	2	4	6	15
Uncertain	13	8	23	10	54
TOTAL	35	23	34	19	111

$$\chi^2 \quad 19,878; \quad df \quad 6; \quad p = 0,01$$

TABLE 6.24: Chi-square analysis: BSRI sample and career expectations (n = 111)

The masculine group (M and A) responses indicated that 32 subjects (29%) of total sample were certain that they would follow a career, 5 (5%) did not expect to follow a career and 21 were uncertain (19%). The feminine group (F and U) showed that 10 subjects expected to follow a career (9%); 10 subjects did not expect to follow a career (9%) while 33 subjects (30%) of total sample were uncertain.

Conclusion: The hypothesis that employed women with a masculine sex role identity would be significantly more interested in a work role and in the development of a career than their feminine sex role identity counterparts was thus confirmed.

6.2.6 Hypothesis VII

Hypothesis VII proposed that no clear distinction would be found between the satisfaction with life situation of employed women with a masculine compared with those with a feminine sex role identity.

Satisfaction with life could, in terms of the conceptualisation adopted for this research, relate to the degree to which the individual felt satisfied with her present life style. Dissatisfaction would relate to a preference for an alternative life style which could better satisfy the needs of the individual.

In order to assess the degree of life satisfaction experienced, an approach, similar to determining career expectations, was followed. Subjects were requested to indicate what their preferred life style would be on the biographical questionnaire. Eight alternative choices were given. These were:

- (1) Maintaining present situation (status quo);
- (2) To develop their career (career sub-identity);
- (3) To continue to study further (student sub-identity);
- (4) To be married and to fulfil the role of wife (wife sub-identity);
- (5) To have children and attend to them (mother sub-identity);
- (6) To do something personal, like travelling, changing life style (self sub-identity);
- (7) To change to a different career (self-work sub-identity);
- (8) An open category accommodating undefined choices, like assisting husband with his career, etc. (other sub-identities).

Responses to these choice categories were further discussed during the interview and on the basis of the combined sources of information a choice of life style was made.

Chi-square analysis was done on the choice of life style and Bem sex role sample data. Results are given in Table 6.25.

Sample Response Choice	M	A	F	U	Total
1	9	4	12	6	31
2	4	4	0	1	9
3	7	3	1	1	12
4	3	1	5	2	11
5	1	1	5	1	8
6	2	5	6	3	16
7	7	3	2	2	14
8	2	2	3	3	10
TOTAL	35	23	34	19	111

χ^2 25,597; df 21; $p = n.s.$

TABLE 6.25: Chi-square analysis: BSRI sample:
Choice of Life Style (n = 111)

Discussion: No significant relationships between the choice of life style and sex role identity were found (Table 6.25). Thirty-one subjects (27,93% of the total sample) indicated that they would prefer their existing life style to be maintained. Some variation in responses from M, F, A and U identity subjects is, however, evident.

Subjects with a masculine (M) sex role identity indicated a preference for further study (question 3 - student sub-identity; or to change their career (question 7 - self-work sub-identity).

Subjects with an androgynous sex role identity indicated a preference to experience something personal like travelling, changing present life style (question 6 - self sub-identity).

Subjects with a feminine sex role identity preferred responses relating to home and family (questions 4 and 5 - wife and mother sub-identities); and personal experiences like travelling, changing present life style (question 6 - self sub-identity).

Subjects with an undifferentiated sex role identity mainly (31,62%) preferred to maintain the status quo. This choice to maintain the status quo could relate to a need for assessment in which no immediate life decisions need to be made or to avoid situations involving risk. Further research on a possible moratorium period during which women may take stock of their life situation, is again indicated.

Conclusion: No significant difference is evident between employed women with a masculine sex role identity and their feminine sex role identity counterparts in terms of satisfaction with life situation. Hypothesis VII is thus confirmed.

6.2.7 Hypothesis VIII

Hypothesis VIII proposed that satisfaction with life must be seen as the result of interactions occurring between several variables. These variables are:

- (i) sex role identity;
- (ii) marital status;
- (iii) need to achieve;
- (iv) age;
- (v) attitude to work;
- (vi) independence;
- (vii) anxiety.

Sex role identity and need to achieve have been shown to be significantly related, (Hypotheses II and III) and to be significantly related to measure of independence, (Hypothesis IV) irrespective of marital status and age. Sex role identity has also been shown to be significantly related to career expectation (work interest) (Hypothesis VI). Anxiety, which could negatively affect feelings of satisfaction does, however, not show a linear relationship with any specific variables of this study (Hypothesis V). Age, marital status, sex role identity and need to achieve, and the interrelationships between these variables, were found to have some relationship with anxiety, particularly when analysed in terms of different age groups (Hypothesis V).

In choosing academically qualified subjects for this study, it was assumed that the opportunity for applying theoretical knowledge in practice and a challenging work situation could contribute to individual feelings of satisfaction with life. Hypothesis VI revealed that women with a masculine sex role identity were more career orientated than their feminine counterparts. Further assessment was therefore done of individual job complexity, job satisfaction and strength of personal career interest (irrespective of a husband's wishes) as indicated by the group of women, and in relation to their sex role identity.

6.2.7.1 Job complexity level

The level of the complexity of the women's jobs was determined irrespective of the rank held by the individual. Evaluation was done on the basis of job information supplied by each individual which was then assessed according to defined complexity scales (see Addendum 4). The assessment, based on the NIPR Q-method of Job Evaluation, allows for scoring either according to defined scale points or undefined scale points, placed between

defined anchor points. For purposes of the present study, eleven possible evaluation positions existed. The distribution of the 111 jobs, in terms of complexity level, is given in Table 6.26.

Job levels	Total number of jobs	% of Total
1	8	7,21
2	16	14,42
3	18	16,22
4	26	23,42
5	20	18,01
6	12	10,81
7	8	7,21
8	2	1,80
9	1	,90
10	-	-
11	-	-
TOTAL	111	100

TABLE 6.26: Distribution of 111 jobs in terms of complexity level (NIPR Q-method)

Job levels 1, 2 and 3 relate to specific work demands for which both theoretical and practical background knowledge is required but where the work is done according to a prescribed approach with limited personal adaptation. Jobs therefore can be characterised by a measure of prescriptive, routine demands.

Job levels 4 and 5 relate to work demands requiring specific interpretation in terms of a person's own field of specialisation and its relationship with other fields of specialisation. The work is done within broad outlines and may require independent assembling and arranging of information. Problems are resolved according to personal judgement and precedent. Advice is, however, available. Independent judgement is therefore controlled.

Job levels 6, 7 and 8 involve planning, organising, adaptation and development of one's own work and that of subordinates. This requires in-depth knowledge of one's field of expertise and integrated knowledge of related fields. Individual judgement and initiative is required to resolve problems in cases where the frame of reference is not clear and the results of decisions taken could cause precedent. Controls on work reside within the individual and only become evident in terms of final results.

Job levels 9, 10 and 11 involve the directing and co-ordinating of multiple fields of expertise. Job incumbents are responsible for innovative developments and, as person of authority, serves as advisor, integrator and balancer between the known and new fields of knowledge. Individuals carry personal responsibility for end results which could have long term research implications.

An analysis of job complexity as it relates to the sex role identity of research subjects, was carried out. Job levels were re-grouped into three categories, namely levels 1, 2 and 3 (Group 1) which represent the more prescriptive job demand; levels 4 and 5 (Group 2) representing the personal interpretive job demands and levels 6, 7 and 8 (Group 3) representing the supervisory and innovative job demands. Because only one subject held down a level 9 job, this job was grouped with levels 6, 7, and 8 (Group 3) for analysis purposes. Chi-square analysis results for job complexity and BSRI data on job incumbents is given in Table 6.27.

Job complexity	BSRI				Total
	f_{eM}	f_{eA}	f_{eF}	f_{eU}	
Group 1	13,24 7	8,70 7	12,86 18	7,18 10	42
Group 2	14,50 15	9,53 12	14,09 12	7,87 7	46
Group 3	7,25 13	4,76 4	7,04 2	3,94 2	23
TOTAL	35	23	34	19	111

χ^2 14,959; df 6; $p = 0,05$; f_e = expected frequency

TABLE 6.27: Chi-square analysis: Job complexity:
BSRI groups ($n = 111$)

These results indicate a significant difference in terms of sex role identity and job complexity level. The feminine group are found to function in the more structured job levels whereas the masculine group tend to hold down jobs in the more innovative work categories.

6.2.7.2 Job satisfaction

An assessment, (made on a five-point scale: None, Some, Average, Good, Excellent) was made of the level of individual job satisfaction experienced by the subjects. This assessment was obtained in a manner similar to the career expectation and life satisfaction rating. The response distribution and response percentage in terms of total response for the separate choice categories is given in Table 6.28.

Assessment category	Actual number of subjects	% Total sample
None	5	4,50
Some	20	18,03
Average	22	19,81
Good	43	38,74
Excellent	21	18,92
TOTAL	111	100

TABLE 6.28: Job satisfaction (as percentage of total sample)
(n = 111)

According to this distribution, the subjects seemed generally satisfied or very satisfied with their jobs. Chi-square analysis of job satisfaction and BSRI sample data revealed no significant differences (Table 6.29). For this analysis assessment categories one and two (none and some) were combined; as were categories four and five (good and excellent).

Job satisfaction	BSRI				Total
	M	A	F	U	
None } Some	1 5	3 2	1 8	- 5	25
Average	4	4	9	5	22
Good } Excellent	18 7	8 6	12 4	5 4	64
TOTAL	35	23	34	19	111

χ^2 5,603; df 6; p = n.s.

TABLE 6.29: Chi-square analysis: Job satisfaction and
BSRI sample data (n = 111)

Tentative interpretation of these results could indicate that although women with a feminine sex role identity tend to function in more routine jobs than do their masculine counterparts, this did not negatively affect their job satisfaction. In fact, the very structuredness of such jobs would probably suit them.

6.2.7.3 Work interest

The importance of work as a personal life event and individual predispositions to accept work as an important aspect of self-investment, irrespective of a husband's wishes, was also investigated. Subjects were asked to indicate on a three-point scale (Yes, No, Uncertain) whether they would continue to work, irrespective of their (or a) husbands' wishes. Results to this question are given in Table 6.30.

Question response	BSRI				Total
	M	A	F	U	
Yes	15	10	6	7	38
No	9	7	17	5	39
Uncertain	11	6	11	7	35
TOTAL	35	23	34	19	111

χ^2 8,153; df 6; $p = n.s.$

TABLE 6.30: Chi-square analysis. Work interest and BSRI groups.
($n = 111$)

An even distribution of responses for this question was obtained. Differences in terms of BSRI responses, although not significant, indicate that:

- (i) Masculine subjects (M) tend to answer in the affirmative or to be uncertain;
- (ii) Androgynous subjects (A) tend to answer in the affirmative;
- (iii) Feminine subjects (F) tend to answer in the negative or to be uncertain; and
- (iv) Undifferentiated subjects (U) tend to answer in the affirmative or to be uncertain as were the M subjects.

It could be expected that age would have some effects on these responses, as would marital status. Analysis was therefore undertaken of age group differences in responses (Table 6.31), and of BSRI subject data responses for different age groups (Table 6.32).

Question response	Age groups				Total
	One	Two	Three	Four	
Yes	2	8	14	14	38
No	14	8	9	7	38
Uncertain	3	15	12	5	35
TOTAL	19	31	35	26	111

$$\chi^2 23.427; \text{ df } 6; p = 0.01$$

TABLE 6.31: Chi-square analysis: Work interest and age groupings
(n = 111)

This distribution of responses shows Group One (21 - 24 years) to respond predominantly negatively; Group Two (25 - 28 years) to respond strongly 'uncertain'; Group Three (29 - 40 years) to give divided responses, both positive and uncertain and, Group Four (41 - 60 years) to respond strongly positively.

These responses can result from:

- (a) a change from greater dependence on a husband's approval to personal choice and personal responsibility for actions taken;
- (b) a change from greater personal dependence to greater personal independence.

Results obtained for work interest in terms of age groups indicate that:

- (a) Women in Group One (21 - 24 years) of whom 11 were single and 8 married, would not let a work role compete strongly with their wife-and-marriage roles;
- (b) Women in Group Two (25 - 28 years) of whom 17 were single, 13 married and 1 divorced, were uncertain of whether they would place their preference for personal work development above a husband's wishes;
- (c) Women in Group Three (29 - 40 years) of whom 6 were single, 26 married and 3 divorced, indicated that a percentage (46%) of them were uncertain of whether they would place personal work development above a husband's wishes. However, 54% of the subjects in this age group stated that they would follow a career irrespective of a husband's wishes;
- (d) Women in Group Four (41 - 60 years) of whom 1 was single, 20 married, 3 divorced, and 2 widowed, predominantly indicated that a work role was important to them and that they would continue to work, irrespective of what a husband would wish.

Sex role identity differentiation of the responses in terms of the four age groups and work interest also shows a difference for the different age groups. No statistical analysis was done and Table 6.32 serves to reflect tendencies only.

Work Interest	BSRI															
	Age Group One (21-24)				Age Group Two (25-28)				Age Group Three (29-40)				Age Group Four (41-60)			
	M	A	F	U	M	A	F	U	M	A	F	U	M	A	F	U
Yes	2	-	-	-	2	3	3	-	5	2	3	4	6	5	-	3
No	2	4	5	3	2	1	4	1	3	-	6	-	2	2	2	1
Uncertain	1	1	1	-	5	4	5	1	3	1	2	6	2	-	3	-
TOTAL	5	5	6	3	9	8	12	2	11	3	11	10	10	7	5	4

TABLE 6.32: Work interest: BSRI distribution for four age groups
(n = 111)

Group One reflects a predominant negative response, irrespective of sex role identity.

Group Two reflects a more uncertain response, again irrespective of the sex role identity.

Group Three reflects a predominant 'yes' response for subjects with a masculine (M + A) sex role identity; and a 'no' response for subjects with a feminine sex role identity and uncertain for subjects with an undifferentiated sex role identity.

Group Four reflects a predominant 'yes' response from subjects with a masculine (M + A) sex role identity. Subjects with a feminine sex role identity were more 'uncertain' while undifferentiated sex role identity subjects also responded positively.

Response distributions on work interest in terms of marital status of the 111 subjects is given in Table 6.33.

Question response	Marital status				Total
	Married	Single	Divorced	Widowed	
Yes	22	10	4	2	38
No	23	12	2	1	38
Uncertain	21	13	1	-	35
TOTAL	66	35	7	3	111

TABLE 6.33: Work interest: Marital status (n = 111)

Discussion: It was stated that different variables contribute to a feeling of satisfaction with life as experienced by employed women.

Analyses have indicated the possibility of differentiating the sample of the 111 employed women in terms of sex role identity, need to achieve, and level of independence, irrespective of age and marital status. Age, however, has some relationship with anxiety, albeit in terms of different variables for the different groups of subjects. Age also influenced work interest of the sample, irrespective of their sex role identity. No single constellation of variables can, however, be identified as indicative of either satisfaction with life or work interest.

During discussions, and in the analysis, certain trends became obvious which, although not accommodating all individuals, can describe factors affecting women at work and can assist in classifying employed women in general. The individual sex role identity and the life role demands which she has to deal with

can affect her overall satisfaction with life. The individual's achievement needs, her level of independence and her marital status can also affect her overall satisfaction with life. However, certain life events, such as marriage, starting a family or personal achievement in the workplace, become important during different life phases. Satisfaction with life must thus be seen as the result of different interrelationships, involving sex role identity, need to achieve, independence, marital status, attitude to work, level of anxiety and environmental demands. These variables can, however, become important (or decrease in importance) during different life phases. Age can therefore be accepted as a relevant influence affecting female work and career commitment.

Conclusions: Satisfaction with life can be accepted as resulting from interactions occurring between the person and environmental interactions. Hypothesis VIII was thus confirmed.

6.3 Age differences

The final objective of this study is to develop a model of adult life experiences which can affect graduated, employed women in their satisfaction with life and in their career commitment.

For comparative purposes, age differences will primarily be discussed in terms of the age groupings used in the analysis of variance. These groupings, however, were based on convenience and should not be seen as clear demarcations of different life phases, beginning or ending at specific biological age cut-off points. Marital status, which, in terms of anecdotal evidence, does influence female life satisfaction and career involvement was also found to be particularly relevant in the first two age groups (thus until age 28). Twenty-eight out of a total of thirty-five single subjects, constitute part of these two groups.

6.3.1 Group One (21 - 24 years)

The general impression gained from these young employed women was one of satisfaction with life. They have all achieved academic degrees, and they have all obtained work in which their academic knowledge can be utilised. In terms of sub-identities these women have proven themselves as students and they are now starting to prove themselves as workers. In terms of social expectation these subjects have also reached an age in which marriage can be expected.

The social expectation of marriage had been fulfilled for eight subjects and a sub-identity of 'wife' with its specific responsibilities, was being developed. These subjects were interested in their work, but when questioned about a future career their answers were vague. Some subjects anticipated combining work with family commitments but these intentions were undefined. The women did not expect to be forced to work because their husbands were seen as the breadwinner while their primary duty as women was to have children and to meet ascribed home role demands, which over-ruled work demands. The women's experience of their work role therefore mainly satisfied theoretical interest; a need for social contacts; and financial independence. Typical examples of this married subgroup would be subjects 5, 8, 13 (see Addendum 6).

The single subjects (11) also gave the impression of being secure in their academic achievements and in the application of their theoretical knowledge in the work situation. When questioned on future career expectations, answers were generally vague and evasive. Two aspects which were more important than work were financial independence and the development of a social life (or extending existing social life) which could include meeting potential marriage partners. The single subjects were secure in

their anticipation of becoming married, and while waiting for this they were earning money, learning to cook, studying interior decorating, reading books, saving for luxury holidays, etc. In isolated cases where subjects were continuing to study, this was done either because the organisation expected it; or for reasons unrelated to their current situation, such as obtaining a teacher's diploma which could be handy if in case of need one had to work while children were young. Certain academic/practical subjects which had always been of general interest could also now be studied. Subjects 14, 15, and 17 serve as typical examples (Addendum 6). Work and/or career related study was not seen as a necessary first step in a process of career development. The sex role orientation for the group was M = 5; A = 5; F = 6; U = 3.

6.3.2 Group Two (25 - 28 years)

This group consisted of 17 unmarried, 13 married and 1 divorced women.

The impression gained from this group was one of restlessness. For both married and unmarried subjects a conflict was developing between a work and home role.

The married subjects were developing in their work, which meant more responsibility and, in some cases, expectations of further study. The possibility of starting a family (because of a biological need; because friends were having babies), contributed to the development of a mother sub-identity. A sense of "broodiness" was evident. When questioned on future expectations, a conflict became evident between either accepting new work or academic study challenges, on the one hand, or having children, on the other. Financial implications (saving for a house, husband studying) which forced continued work involvement,

increased this conflict because it either forced the decision of accepting work responsibilities and proving oneself, or accepting less challenging job demands and letting job opportunities pass by (examples: subjects 26, 35 and 39) (Addendum 6).

The unmarried subjects seemed more unsettled than the married group. During interviews these subjects were anxious to discuss possible changes in work, be it a change to a new job or a total change of work direction, including study in another academic discipline. The general impression was one of eagerness to start a new life, to develop alternative life styles, even though it might require selling everything they had to obtain enough money to start anew. Discussions with the subjects, however, did not indicate a much clearer long-term career perspective for the single women than for their married counterparts. They were primarily interested in "starting a new life". Although more reluctant to discuss the possibility of marriage than their younger counterparts, this group did indicate that they would very much like to get married, and that they were developing social contacts with this in mind. These unmarried subjects were, however, also in the process of reconciling the previously held social expectations of getting married with the possibility of a future of singleness and having to be their own breadwinner. In contrast to the conflicts experienced by their married counterparts, the unmarried subjects were not in a position to change their environment to suit their needs. They could not get married at will and a possible alternative was to change their life style and thus try and achieve internal balance in terms of a new or revised sub-identity integration (examples: subjects 23, 36, 45 and 47). The BSRI composition for this group was M = 9; A = 8; F = 12; U = 2).

or was changing, to become a career sub-identity.) Although accepting the possibility of perhaps marrying, marriage had become less important and four of the six singles reported that they would, in any case, continue a career, irrespective of a husband's wishes. The remaining two single subjects were uncertain whether they would continue to work if a husband did not approve. Subject No. 60, who also responded 'uncertain', is a particularly appropriate example of the conflicts which single subjects in this age category have to resolve in order to develop a career sub-identity. Further examples are subjects 73 and 76.

The subjects with an undifferentiated sex role identity were all married and seemed to be particularly stressed because of a conflict experienced between home demands and personal development needs. (Subject No. 62 serves as a typical example.) Within the total group of 111 subjects, only 19 gave evidence of an undifferentiated sex role identity. Ten of these nineteen subjects are found within this age category and the need for further research on the implications of the coping process and the undifferentiated identity has already been stressed. The BSRI distribution for this group is $M = 22$; $A = 3$; $F = 22$; $U = 10$.

6.3.4 Group Four (41 - 60 years)

This group consisted of 1 single, 20 married, 3 divorced, and 2 widowed subjects. Twenty-two of these women had family commitments although the children involved were mostly of a more independent age.

Characteristically, this group can be described as consisting of two subgroups, namely those who are career committed (14 subjects) and those who are merely holding down a job (7 subjects).

6.3.3 Group Three (29 - 40 years)

This group consisted of 6 single, 26 married and 3 divorced women. Seventeen women, including two divorcees, had children and thus had to combine family and work role responsibilities.

The married women with family responsibilities typically experienced conflicts relating to work and home role demands. Some expressed a wish to show their worth in the workplace (work sub-identity) but had to balance this need with demands made by husband and/or children (wife, mother sub-identities). Some dealt with this conflict by accepting routine job demands and not planning any future personal development. Others temporarily accepted routine job demands, thus biding time until the children were less demanding. Others developed strategies whereby both role demands could be met, for example studying at night when the family were asleep or completing work at home when the husband was studying or away, to make up for time used to fulfil family responsibilities during work hours. When asked whether they would follow a career, irrespective of their husbands' wishes the married subjects of this group responded with 8 = yes; 8 = no; and 10 = uncertain. Six of the women who responded with a 'no' answer were categorised as having a feminine identity and they clearly indicated that they had no intention of a long-time work involvement. The work demands (work sub-identity) thus conflicted with the preferred home identity (examples: subjects 55 and 62).

The six single subjects were clearly different from their married counterparts. They seemed to have clarified, or were in the process of resolving a conflict relating to their single status. They were planning their work future and were anxious to accept job responsibilities which could assist them in establishing a work career. (The work sub-identity had changed

The career committed group could be identified in terms of certain life crises which they had experienced, like being divorced; being widowed; being forced to accept challenges involving personal development; realising early in life that they could not have children, or never marrying. These crises had forced them to reassess themselves in terms of who they were, who they wanted to be, and how they were going to develop. In reflecting back on their lives, certain strategic planning became evident which involved personal choice and personal investment, irrespective of social or family expectations. The married women emphasised the value of an understanding husband's assistance in meeting multiple role demands. However, these women also utilised a 'Style One' coping process (Hall, 1972) in which both personal role redefinition and structural role redefinition was achieved. The career committed group were interested in vocational development, irrespective of retirement possibilities, and in terms of Almqvist and Angrist's (1970) proposal, gave evidence of an "enriched" behaviour pattern.

The subjects who were merely holding down a job in contrast to those with career involvement, could be identified on the basis of their restricted viewing of the work they did. To a greater or lesser degree, they enjoyed the work activity but it did not emerge as of central importance in their lives. Looking back, these subjects gave critical incidents which indicated that role conflict was accepted as part of an employed woman's life and that she had to learn to accommodate the demands of the situation. This resulted in defence strategies in which role priorities over-ruled personal needs and reactive behaviour which accepted an external locus of control (for example, circumstances, husband's expectations) rather than personal choice and control.

Sex role identity differences became more pronounced in this group, with masculine subjects being more career committed and feminine subjects being more work committed. The sex role distribution for this group was M = 10; A = 7; F = 5; U = 4. Case studies illustrating the observed differences are subjects 87, 92, 97, 99, 100, 105 and 106.

6.4 Conclusion

Analyses of work and career demands indicate that a masculine sex role identity, a need to achieve, and independent behaviour, are prerequisites for accepting and handling higher level job responsibilities. The results obtained for the sample of 111 women indicate that they can be differentiated in terms of these personality factors.

In the present study, results indicate significant interactions between a masculine sex role identity, the need to achieve, and independence, irrespective of age or marital status. No linear relationships were found for anxiety and sex role identity, achievement need or marital status, although some interaction was found for age. An analysis of variance, using four age groups, indicated differences between the groups. Group One (21 - 24 years) indicated significant results on anxiety, need to achieve, marital status and sex role identity/marital status interaction. Group Two (25 - 28 years) and Group Three (29 - 40 years) showed no significant results for anxiety and the other variables. Group Four (41 - 60 years) showed significant results for anxiety and the sex role identity/achievement interactions and anxiety and sex role identity/marital status interactions.

The differences between the four age groups in terms of anxiety could not be related only to sex role identity but also required analysis of environmental influences, like job complexity level, job satisfaction, job interest, and satisfaction with life in general.

Chi-square analyses were carried out to determine the significance of differences between sex role identity and career expectation, job complexity, job satisfaction and career interest. Whereas significant correlations were obtained between sex role identity with career expectation and job complexity, no significant correlations were revealed for sex role identity and job satisfaction and work interest. Sex role identity and choice of life style also revealed no significant differences.

Significant differences were obtained for correlations between work interest and sex role identity when different age groupings were compared. Subjects in Age Group One (21 - 24 years) responded negatively in terms of work interest. A strong 'uncertain' response was obtained from Age Group Two (25 - 28 years). Both positive and 'uncertain' responses came from Group Three (29 - 40 years), while Group Four (41 - 60 years) gave positive responses.

To assist in identifying environmental implications which could affect female career commitment, particularly in terms of different life stages, summaries of characteristic trends of age groupings, which became evident during the interview, are given. Case studies, substantiating differences in terms of sex role orientation for women in different age groups, are briefly discussed.

The final objective of this study was to develop a conceptual model of female vocational behaviour taking into account that personality factors, as well as environmental and age factors, may influence such behaviour.

In the following section (Chapter VII), the implications of the findings of this study for the development of a model of vocational behaviour are discussed and a conceptual, developmental and interactional model is proposed.

CHAPTER VIIFEMALE VOCATIONAL BEHAVIOUR

During her studies and in the first decisive years of her career, woman rarely uses her opportunities with simple directness, and thus she will often be handicapped later by a bad start.

Simone de Beauvoir
The Second Sex (1965; p.657)

It is in the autumn and winter of life that woman is freed from her chains; she finds this freedom at the very time when she can make no use of it.

Simone de Beauvoir
The Second Sex (1965; p.549/550)

7.1 Introduction

Despite the rapid cultural, technological and scientific advances which our society has achieved, attitudes towards employed women have remained relatively unchanged and express stereotypical portrayals of rigid role definitions. Women, outside their conventional roles, namely marriage and motherhood, have been largely ignored by personnel practitioners and psychologists. It has only been during the last decade that psychologists have directed their attention to studying the changing roles of adult women. Despite the increased necessity for women to engage in alternative roles and activities, with increasing numbers of single, divorced or widowed women becoming primarily family breadwinners, women are often still ignored as viable subjects for empirical research on work commitment. Women are blamed for not responding in an "appropriate" manner, without recognising the stereotyped viewing of what is "appropriate" for a woman. Double standards are applied to women who are forced, often by circumstances beyond their control, to accept and to cope with changing, and potentially conflicting, role demands. Assuming an occupational role does not bring significant changes in the demands made by home and family roles, which remain the primary responsibility of the wife. It has, however, become increasingly common for women to follow different patterns of employment even during periods when younger children require more specific attention. In searching for the antecedents and consequences of female work involvement, and in determining attitudes toward and expectations which women have of their adult lives, it has become clear that this involves a complex and multifaceted field of research.

The results of this study have indicated personality differences between employed women, irrespective of age or marital status. These differences can, to a certain degree, be related to socialisation processes which encourage women to internalise

sex role stereotypes which portray women as submissive and dependent in contrast to men who are seen as independent and achievement-orientated. Yet, to achieve in a work role and to develop a career, women should realise that they have to be more achievement orientated and to become more invested in their occupations. This requires that women become more conscious of their potential and the barriers in themselves and in their roles which block the full utilisation of their potential. Women need to develop work and, eventually, career sub-identities in addition to their home sub-identities, to enable them to compete effectively in the workplace and to meet work role demands.

Anecdotal evidence obtained from the women in this study indicates that they experience continual developmental change throughout their lives. These changes can be related to crisis periods or to perspectives which develop at various points in the individual's life. Depending on circumstances, personal expectations, and sex role orientation, and the circumstances at work, such crises can become developmental transitions when moving from one role demand to another. Life satisfaction and level of work involvement are furthermore influenced by the personality of the individual and the coping processes utilised by her to resolve conflicts.

Successful coping approaches can be acquired, depending on the insight which the individual has of her own needs and how these interact with the constantly changing pattern of her life. To assist women in their understanding of what is involved in meeting family and work role demands during different life stages and in coping with significant life events, a final objective of this study was formulated.

7.2 Concluding objective

As stated in Chapter V, the research objectives of this study were to investigate:

- (i) Personality differences existing between the sample subjects;
- (ii) The influence of personality, marital status and age on the individual's work interest;
- (iii) The implications of level of congruence between personal needs, values and environmental demands on the individual's satisfaction with life.

It was furthermore proposed that, based on the results obtained for these objectives, a model of adult life phases, applicable to graduated, employed women, would be developed.

Riegel (1975) emphasises that adult development should be seen as a process progressing along four dimensions. These dimensions are the individual-psychological; the cultural-sociological; the inner-biological and the outer-physical. Lack of synchronisation of these dimensions can result in crises for the individual. Coping with, or resolving, the crises can occur through structural transformation of the individual's life or approach to life, by bringing it into accordance with what socially is expected of the individual at that stage of his or her life. The normative expectations, generally still held by both sexes, that women's occupational interests will be secondary to family roles can serve as an important barrier to the synchronisation of individual-psychological and cultural-sociological (economic-developmental) requirements. Social norms that are no longer relevant can result in crises experienced by both the individual and the community.

Neugarten (1969) states that the psychological realities of adulthood cannot be understood, merely by projecting those issues which are salient in childhood into the future (p.121). The psychological realities of adulthood for women, including her work role, can, furthermore, not be understood merely by comparing them with the realities salient for men. Adulthood, for both men and women, is the time when values have to be sorted out and when a fit between the 'self' and society has to be achieved. Whereas society expects the male to invest the 'self' in a vocational reality, the female is expected to invest the 'self' in service for 'significant others' like a husband and children, to whom a woman's life may be bound for many years. However, life experiences of present-day women indicate that the sex role specialisation which was relevant for a certain stage of economic development, is in the process of becoming maladaptive for the world into which we are now moving.

The issues of life are accepted as being different for men and women. Individual life-histories, including both biological and social events, indicate that men and women experience continuously changing circumstances, which require individual assessment and personal manipulation to achieve valued objectives. At a certain stage, marriage could be highly valued by women, whereas becoming one's own boss could be valued more highly by men. In studying life phase experiences which are specifically applicable to working women, we therefore have to create an appropriate frame of reference which reflects their life realities.

The following propositions have been formulated to provide guidelines for the development of a life phase work role model for graduated, employed women.

Need	No. of subjects	Median	Mean	sd
Need to Achieve	57	14	32,495	10,360
Need to Avoid Failure	54	6	17,820	8,492

TABLE 6.1: Distribution of Mehrabian N/Ach scale results
(n = 111)

Discussion: 51,35 per cent of the total sample of 111 subjects indicated a need to achieve, whereas 48,65 per cent of the total sample indicated a need to avoid failure.

The Mehrabian scales, used as alternatives to the projective measures of achievement motivation developed by McClelland et al. (1953), are designed to discriminate between high and low achievers. It is postulated that high achievers are individuals who:

- (i) Have a stronger motive to achieve relative to their motive to avoid failure;
- (ii) Have more positive feelings aroused by success than negative feelings aroused by failure;
- (iii) Have realistic aspiration levels;
- (iv) Prefer intermediate risk situations;
- (v) Have a more distant future perspective;
- (vi) Can delay gratification;
- (vii) Prefer achievement related activities;
- (viii) Are more independent (Mehrabian, 1968).

provisional, seems to reflect a changing attitude to women's life roles (Ferree, 1979; Waite and Spitze, 1979). However, sex role socialisation, in the development of norms of appropriate behaviour, continues to influence female expectations, attitudes, and influences the measure of investment of the 'self' in a work role and in career development.

The life experiences of employed men and women can be accepted as being different. Socialisation expectations and actual life demands, particularly biological demands, result in different experiences. Pearlin (1975), furthermore, correctly suggests that while the occupational experiences of men certainly have a broad range of consequences for their family roles, men do not have to deal with the same problems as do women in reconciling outside employment with continuing home and family roles (p.202).

7.2.2 Proposition II

Marriage and work need not be mutually exclusive for women.

The rising demand for skilled labour and the increasing numbers of married women functioning in the labour force (locally and elsewhere) indicate that marriage and work can be combined. Married women successfully function at all job levels and due to changing circumstances, for instance reflected in an increasing divorce rate, many women with family commitments are forced to aspire to higher level job categories to meet the demands of being a primary breadwinner.

Women, in contrast to men, however, generally have to deal with specific conflicts in balancing both occupational and family roles (Pearlin, 1975; Bernard, 1975). Social barriers to changes in women's roles, as well as a lack of assistance with child-care, may, in part, account for women continuing to be employed

predominantly in lower status jobs (Huston-Stein and Higgins-Trenk, 1978). However, the aspirations and plans of young women reflect changing social conditions and life patterns, so that women are increasingly planning to be employed, either continuously or with some interruption during the years when their children are young (Waite and Spitze, 1979).

Marriage and work are not mutually exclusive but childbearing and childrearing responsibilities do affect work involvement. The relationship between a woman's intended childbearing, and her labour force participation, has, in recent years, been given specific attention, enabling us to make some prediction of labour force participation by married women (Waite and Stolzenberg, 1976; Waite and Spitze, 1979). No conclusive answers to the question of whether women limit their childbearing in order to pursue other interests, or whether they work if their childrearing responsibilities permit them to do so, is as yet available. Research results, relating to the United States of America indicate that whereas the effect of fertility expectations on intended labour force participation seems to be small, the effect of intended labour force participation and planned number of children seems to be more substantial (Waite and Stolzenberg, 1976).

The return to paid work by older married women in South Africa is acknowledged and encouraged (Vermaak, 1975; Wessels, 1975; Wessels, 1977). Ferree (1979), however, correctly emphasises that aggregate patterns of changes in female employment do not necessarily assist us in understanding individual women's attitudes toward employment, particularly as these attitudes may change with age. The fact that marriage does not exclude work for women and that many married women of this generation complete a longer period of work involvement than was the case with previous generations, does not necessarily indicate that present-day women want to work, or have been interested in

developing a career. Women frequently merely fulfil a work role without developing a career (Hennig and Jardim, 1978).

7.2.3 Proposition III

Employed women must integrate four major life influences in order to achieve reconciliation between different role demands. These influences are:

- (i) socio-cultural;
- (ii) biological;
- (iii) psychological;
- (iv) situational.

Individuals react differently to different life events because of a personally developed evaluative frame of reference. When confronted by situations requiring adaptive effort, differences in behaviour will depend on:

- (a) socio-cultural influences (for instance, correct behaviour expected of a woman);
- (b) biological implications (for instance, having a child can negatively influence career development);
- (c) psychological influences (for instance, fear of failure may inhibit behaviour responses);
- (d) situational demands (for instance, transfer of a husband can result in terminating work which could have developed into a career).

The need to co-ordinate or integrate different life demands can constitute a crisis which involves the self-concept (role sub-identity); the individual perception of cultural and social norms and biological and situational demands.

Reconciliation of different role demands in a manner acceptable to the individual relates to the measure of self-determination which is possible. A need for personal control over life circumstances and the course of life events, is important for individual development. Researchers of life-span psychology generally emphasise the need for independence, to become a person in one's own right and to focus one's life and make one's own decisions (Havighurst, 1973; Thomae, 1979; Bühler et al., 1959; Erikson, 1959).

The alternative to a feeling of control is a sense of alienation which involves discordance in the individual's perception of the real and ideal; between the world that is compared to the world that should be (Otto and Featherman, 1975). Alienation is a subjective state which can vary with the individual's perceptions of reality. Alienation can occur when the individual feels she cannot attain what, for her, are valued goals, irrespective of whether these are personal or culturally shared values.

(i) Socio-cultural influences: Socialisation processes guide women in their social expectations and in relating their aspirations to their personal resources. Where social expectations and individual resources are congruent, a sense of harmony with the social environment results. However, if what is taught and what is expected is incongruent with reality, and if the individual perceives herself as unable to control her life, then dissonance occurs and an increased feeling of alienation may result.

(ii) Biological influences: Development during the life-span requires dealing with successive tasks occurring in a series of different life contexts. In the case of women, these contexts relate to interactions occurring between age-related events like biological maturation and childbearing; normative

influences relating to cultural expectations ('correct age' to marry); and situational realities (not getting married, divorce, having a child, economic need). These events, expectations and realities can significantly affect the life pattern of a woman and contribute to either a sense of personal control or a sense of alienation.

(iii) Psychological influences: The significance of different life events depends on the impact they have on the individual and the implications they have for feelings of personal success or failure. In order to cope effectively with different life events, and to meet multiple role demands, a woman must experience a feeling of personal effectiveness, or a sense of mastery in the world (Brissett, 1972). A woman lacking a feeling of personal effectiveness may experience life as empty and boring and without the vitality which could be expected.

(iv) Situational influences: Individuals, whose personal resources and aspirations agree with societal expectations will be able to adjust to changing environmental demands. Employed women, however, who either cannot or do not want to adjust aspirations and resources to environmental demands, can experience varying levels of conflict. Feelings of alienation will, furthermore, influence the need for and manner of coping approaches followed in dealing with work related stress.

Examples of subjects with a sense of alienation and lack of control over their lives became evident, particularly among unmarried women in their late twenties. They complained that life was empty ("Is this all there is to life? Life can't consist only of work and an empty flat!") and were planning coping approaches which would include structural change, like changing their jobs, going overseas, studies in a new discipline.

Their alienation could be related to the non-realisation of the personal and cultural expectation of marriage. Alienation also became evident amongst married women in their mid-thirties who felt life to be flat, although not empty or boring, but without vitality. Instead, life was a struggle to meet all demands and again the question was raised: "Is this really what life is all about?". These subjects, however, could not structurally change their lives and were adapting their own needs to environmental demands or they were trying to meet all demands in their effort to integrate the biological, psychological, socio-cultural and situational demands.

7.2.4 Proposition IV

Employed women deal with significant life events according to personal patterns of socialisation.

Life crises can be defined as confrontation with different life events which require adjustment. Individuals differ in their assessment of situations or events as being either stressful or challenging. Adjustments to changing life events can, therefore, be influenced by either a motive to achieve, or a motive to avoid failure.

Atkinson and Litwin (1960), furthermore, suggest that although an individual can be motivated by the desire to achieve or by a fear of failure, he or she is not prepared to deal with failure itself. When failure cannot be avoided, individuals find it difficult to adapt to the fact that they have not succeeded. Failure means not being able to meet objectives and when faced with potential failure, the individual tries to avoid it by redefining situations, events, objectives or expectations (Albrecht and Gift, 1975).

Fear of failure is a relevant and real experience for adult women. Women are socialised to expect to get married, to have children, to become a good mother, to be a competent wife. Recent developments also raise the expectation of women having to become a good and dependable worker. Subjects participating in this study also had to meet the expectation of being a good academic student. Furthermore, the work climate of their organisation raised expectations of further academic achievements. Failure in any of these roles can result in conflict, feelings of lack of control over life and alienation.

In situations where an individual stands to lose much of what she experiences as of value, the common reaction is to withdraw and to focus attention on those roles or activities which she knows she can handle or which she knows are expected of her. These can be either work-related or home-related. Typical responses to failure involve:

- (i) giving up completely (Helplessness: Seligman, 1974);
- (ii) retiring from the situation;
- (iii) trying to conform to all expectations;
- (iv) re-organising resources and selectively trying again;
- (v) denying failure and redefining the situation, needs and/or objectives (Albrecht and Gift, 1975; Hall, 1972).

Information from the present study indicated that socialised behaviour patterns caused women to adopt different coping approaches in dealing with significant life events.

Academic achievement was often blamed by competent young, unmarried women for the fact that they had failed to find a marriage partner. When confronted with expectations of further, work-related achievements these subjects preferred to retire from the work situation and try to start life again in a different job or under changed circumstances.

Meeting job demands which do not really challenge their potential or satisfy their needs was acceptable to highly qualified married women with family responsibilities because accepting more challenges would increase the already existing anxiety that they could fail as wives and mothers.

Older women, who had the potential and the opportunities to accept more challenging work were afraid to accept such challenges because of uncertainties about their own potential although they personally felt the need for achievement and independence (so-called mid-life crisis). Differences in vocational interest between women of different age groups were clearly evident as predicted by Levitt (1971).

Also significant was the fact that women generally accepted that conflicts stemmed from within themselves and their behaviour, rather than from their environments.

7.2.5 Proposition V

The vocational interests and work involvement of employed women are affected by their:

- (i) sex role identity;
- (ii) age.

Female work interest is influenced by personality and by life circumstances. Biological and socio-cultural role expectations of women change, however, as they grow older and as their family commitments become less demanding.

The present study indicated differences in sex role identity amongst the sample subjects. These differences were related to needs for achievement, independence and to work interest.

A masculine sex role identity may be congruent with the individual's perceptions of the behaviour and attributes associated with a particular work role. Women with a masculine sex role identity can be expected to have vocational interests which would transcend the traditional "female" work role boundaries. They can also be expected to feel more comfortable in meeting "masculine" job demands than would be the case for their feminine sex role identity counterparts.

Recognition is necessary of the importance which a woman attaches to a work role and a home role sub-identity, respectively, to enable assessment of the effect which any change in either role demand would have.

Results, obtained from this study, indicate that subjects who had experienced life role changes like widowhood and divorce generally had re-assessed their role sub-identities. In most cases, these subjects had developed a greater need for personal achievement and work involvement than their counterparts who were still secure in their marital status. Similarly, women who had admitted the possibility of not marrying, were more interested in personal achievement and work involvement than their married, or younger unmarried counterparts.

Age also seems to influence women's interest in work and in the development of a career. This study did not specifically investigate the implications of age on work commitments, but results obtained for the subjects' work interest did indicate age differences.

Subjects in their early to mid-twenties (married and unmarried) showed some interest in the work they were doing, but they generally did not see their jobs as the beginning of a longer-term career involvement. Unmarried women in their late twenties

to mid-thirties were generally work involved and were, to a greater or lesser degree, planning future career commitments. Older, married women (40+), divorced and widowed women tended to be more interested in their work and in the development of a career than were their younger, married and unmarried counterparts. This is in agreement with research results reported by Lowenthal (1977). She found that, when contrasting middle aged women and men, the women tended to become more self-assertive and to show a developing mastery trend.

Older women in the present study expressed a need for strengthening of commitment in an area that differed from the one to which their normative sex roles had confined them. Women seem to move from a passive role to an active role as they grow older. It is also interesting to note that in the present study 17 subjects out of a total of 26 (in the age group 41-60 years) gave evidence of a masculine sex role identity.

7.2.6 Proposition VI

Female career commitment results when work becomes a central life interest for the individual.

Commitment to a career needs to be distinguished from commitment to a job, or job involvement and from occupational choice. Life role demands and a possible need to avoid failure may guide women, compelled to work, into occupational choices which do not generate many challenges or which can conveniently fit in with their other life roles. A typical example of such a choice would be teaching, because a teaching job would enable women to deal more effectively with home and child-care demands. Accepting part-time employment may be another way of integrating home and work demands.

Commitment to a career, however, requires the pursuing of, what could normally be a temporary activity, as a life work. Career commitment requires increasing one's knowledge, skills and abilities to extend beyond what is expected in the existing job and to create a new aspect of the self in order to meet new, and possibly, more challenging job demands. Career commitment therefore requires more than vocational interest, it includes a need for independence and achievement in a particular vocation.

It is, however, difficult for married women to accept work as a "central life interest" (Dubin, 1956). Work and the development of a career is not seen as the primary adult life role of women. The more involved a woman is in her work, the more she may wish to increase her knowledge, skills and abilities to meet developing job demands. Such development of a work role sub-identity can, however, conflict with the woman's home and family role demands. Both personal and situational variables can, therefore, have independent effects on female job involvement and consequent career commitment (Rabinowitz and Hall, 1971).

Age may, however, affect the meanings and functions associated with specific roles and may result in periods of transition during which norm-guided behaviour may become more, or less, relevant. It furthermore does seem that women, when confronted by the need to progress in a work role, can develop new skills, a new life style and a new attitude towards life which transcends traditional role expectations and which can result in them accepting work as a central life interest.

7.3 Conclusion

Existing models of adult life stage development are based primarily on a male life and work pattern. No such model exists for females. Work, as central life theme, is found extensively

in discussions of the meaning and ordering of life events in existing theorising on male life phases.

Levinson and his colleagues (1978) discuss adult development and transition in relation to a concept called "The Dream". This dream expresses the aspirations and images of the future which the individual had as a youth and which remain with the individual until old age. Levinson proposed that maturation caused the individual to suppress certain aspects of the self in order to adapt to, and to develop, a given life structure which includes work and family roles. During mid-life, however, the individual tends to question whether what he is doing represents what he really wanted and whether this is what he would like to do for the remainder of his life. Through re-assessment of his "Dream", which has guided him from early years, the individual then either continues existing patterns or restructures the rest of his adult years until the onset of old age. Whereas work for the male is the beginning of a life-time occupation and the potential start of "The Dream", for women it serves as an interim period of waiting for "The Dream" to start.

Thomae (1979) emphasises the need to define the life-span of an individual as a sequence of interactions taking place between different events at different life-times and behavioural change. He suggests that the ordering of biological, social and psychological events in a life cycle should serve as a frame of reference in studying adaptations and developmental change which could occur in the individual. This suggestion seems particularly relevant to the study of female life experiences, notably when relating important life events to work attitudes and work involvement and in reconciling different life role demands.

Gould (1975) states that the process of life change means coming to new beliefs about oneself and the world. Although the process of reconciliation is relevant to both men and women, existing evidence suggests that this occurs at different times for men and women. Particularly employed women, experience reconciliation at different times in adult life compared with employed men.

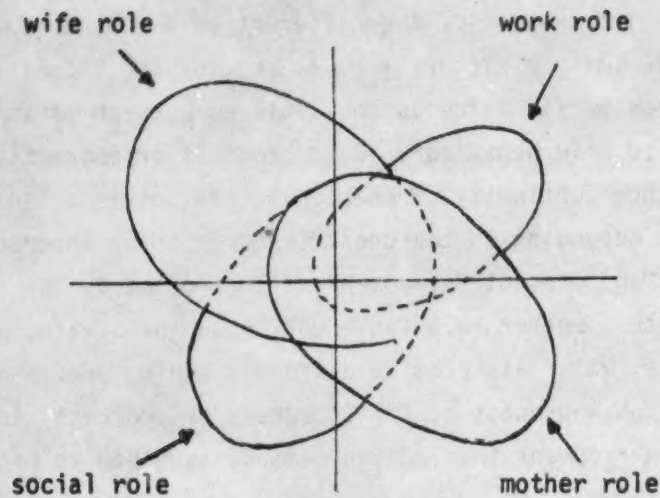
Adaptations by women to changing situational demands relate to a process of establishing inner order, or achieving role identity integration. This process differs for married and unmarried women and requires different coping approaches at different life stages.

Although many women fulfil work role demands, actual career commitment only starts when they accept work as a central life event and engage themselves in the development of their work and a career as a central life interest.

7.4 Schematic presentation of female life and work involvement phases

7.4.1 Life roles and sub-identities

Hypothetically, the potential life roles of employed women can be seen as representing separate, but integrated sub-identities of the individual (Figure 7).



(Adapted from Hall, 1972)

FIGURE 7 : Hypothetical life role sub-identities

In this diagram, two life roles predominate, namely the wife and mother role. The social role is largely integrated with the wife/mother roles, but it still is in size (importance) larger than the work role which would be placed in the lowest rank of these four roles.

Depending on the actual life situation and personal values, individual life roles and sub-identities can change in that:

- (i) they are reduced in number (for instance, only wife and mother roles having to be fulfilled);
- (ii) they can change in size (for instance, the work role increases in extent, thus causing the social role to become smaller); or
- (iii) they can change in type (because of single status a woman may develop a career, increase her social role and continue a daughter role).

Successful integration of the different role demands depends on the value of the different roles for the individual and the goodness of fit which can be achieved between personal needs and required role behaviour. Both goodness or poorness of fit can influence continuity or change in the individual's behaviour, depending on the organism-environment interaction process. Many present-day women are confronted by the need to integrate a mother role and a work role (or a wife, work, social role) which all require different coping processes. An example of a process of fit (goodness or poorness) in meeting organism/environment interaction demands is given in Figure 8.(p.221).

7.4.2 Self-regulation of behaviour

Bandura (1978) proposed that different component processes are relevant in the self-regulation of behaviour. These processes include:

- (i) individual expectation of performance;
- (ii) judgemental or normative processes; and
- (iii) individual expectations of the results of actual behaviour.

Poorness of fit can occur when discrepancies exist between environmental demands (expected performance) and the characteristics (capabilities, motivations, needs) of the individual. In relating these concepts to adult women's home and work role expectations and demands, components as shown in Figure 9.(p.222).

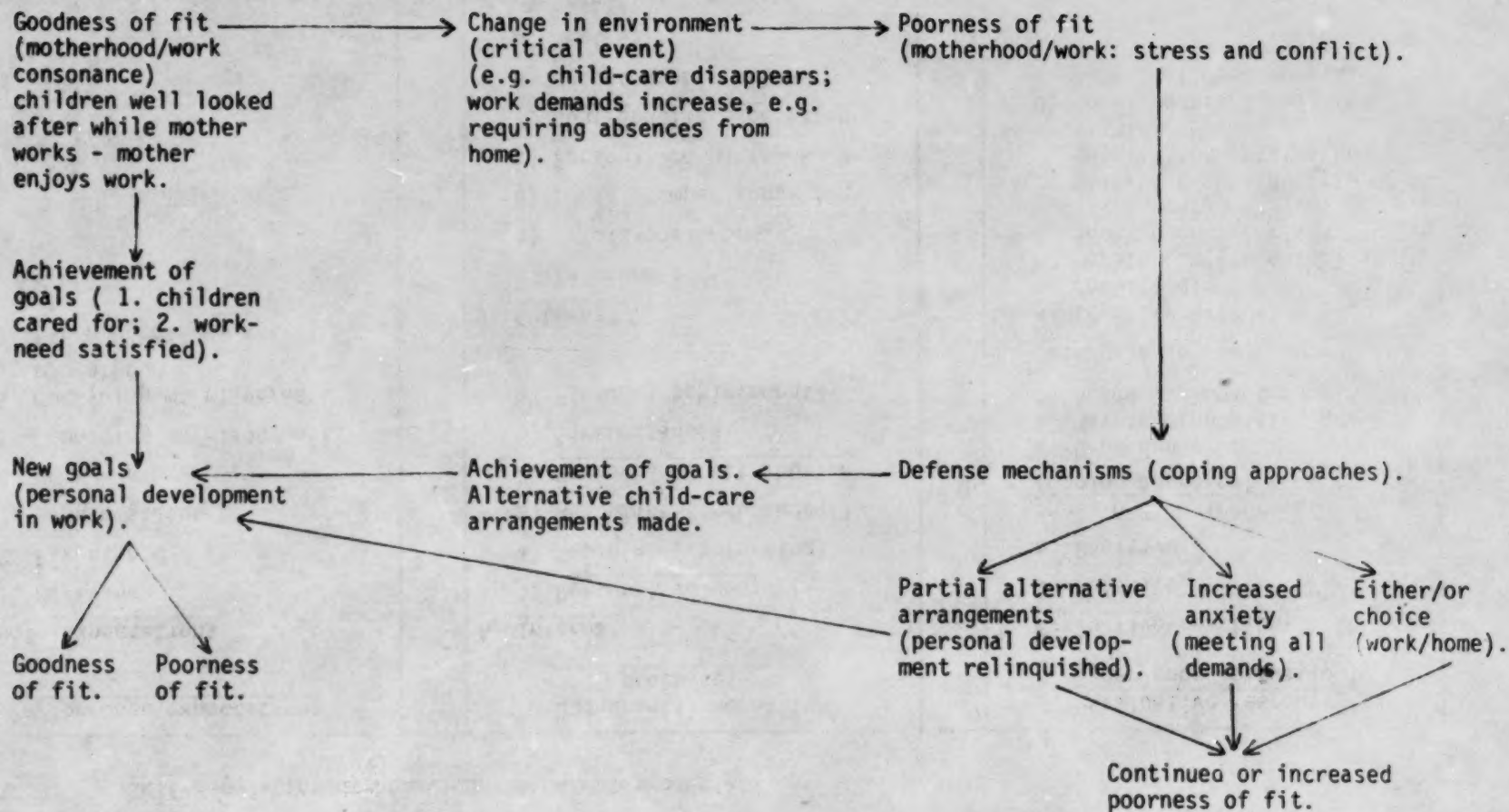


FIGURE 8: Organism/environment interaction demands

FIGURE 9: Self-regulating of behaviour component processes

<u>Performance expectations</u>		<u>Judgemental/Normative processes</u>		<u>Evaluative response (Experienced situation)</u>
A. <u>Role expectations</u> 1. Marriage 2. Parenthood 3. Single status 4. Work 5. Combining marriage/work 6. Combining marriage/work/parenthood 7. Career (self-emphasis)	→	A. <u>Internal</u> 1. <u>Personal values:</u> a) Feminine (conforming) b) Masculine (independent) 2. <u>Performance attribution</u> a) Circumstances b) Personal achievement B. <u>External</u> 1. <u>References</u> a) Traditional norms b) Social comparisons c) Personal comparisons 2. <u>Cost/Benefit expectations</u> a) Result highly valued b) Neutral c) Result of low value	→	A. <u>Evaluative reactions</u> a) Negative b) Positive B. <u>Behaviour consequences (Coping approach)</u> a) Dependence b) Maintaining status quo c) Autonomy/Impact on life C. <u>Self/Role integration results</u> a) Identity diffusion (not committed) b) Moratorium (to establish inner order) (crisis assessment) c) Self/Role sub-identity integration (status quo - stable) d) Independence/Commitment (personal development)

7.5 Model of life phases

In developing a model of life phases applicable to graduate, employed women, recognition must be given to:

- (i) their different life roles (role sub-identities);
- (ii) the implications which these role demands (expected and experienced) may have on the goodness of fit or poorness of fit experienced by women at different life stages; and
- (iii) the implications which different component processes may have on the self-regulation of behaviour and coping approaches adopted by individuals.

Levinson's (1978) life stage approach, depicting the different 'seasons' applicable to an adult man's life is used as basis for the development of a model depicting fundamental issues confronting adult working women. Marital status must also be accepted as an important component affecting a woman's life. A different model is consequently proposed for married and unmarried groups, although during some life stages marriage does not seem to differentiate between women with regard to work commitment. Figure 9 (abbreviated) describes the behaviour component processes involved in the formulation of the life phase models (Figures 10 and 11). (pp. 224 and 225).

7.6 Conclusion

The adult life phases of employed women can generally be categorised as following four stages:

- (1) An entry stage which represents entering the adult world and involves dealing with the potential achievement-related work role and a socially ascribed home role;

FIGURE 10: Conflict and choice: A model of adult, employed women's life phases: A (unmarried)

	Performance expectations	Normative values		Evaluative response			Measure of fit
		Internal	External	Reactions	Consequences	Results	
Early adult transition — 22 yrs	1,6	1a(F) 2a+b	1a,b,c 2a	b	b	b	Goodness of fit
		1b(M) 2a+b	1a,b,c 2a	b	c	b(or)c	Goodness of fit
Entering the adult world — 25 yrs	1,4,6	1a(F) 2a+b	1a,b,c 2a	b	b	b	Goodness of fit
		1b(M) 2a	1a,b,c 2a or b	b	b(or)c	b	Goodness of fit
Age - 30 transition (conflict) — 32 yrs	1,4,3	1a(F) 2a	1a,b 2c	a	a(or)b	a	Crisis/Poorness of fit
		1b(M) 2a+b	1c 2b,c	a	b(or)c	b(or)c	Crisis/Poorness of fit/ Coping
Settling down (choice) — 40 yrs	3,4,7	1a(F) 2a or b	1b,c 2b,c	b and a	b(or)c	b(or)c	Crisis/Poorness of fit/ Coping
		1b(M) 2b	1c 2b,a	b	c	c(or)d	Coping/Achieving alternative goals
Middle adulthood 40 — 50	3,7	1a(F) 2b	1c 2b,a	b	b(or)c	c(or)d	Coping/Achieving alternative goals
		1b(M) 2b	1c 2a	b	c	d	Goodness of fit
Culmination middle adulthood 50+	4,7	1a(F) 2b	1c 2a	b	c	d	Goodness of fit
		1b(M) 2b	1c 2a	b	c	d	Goodness of fit

FIGURE 11: Conflict and choice: A model of adult, employed women's life phases: B (married)

	Performance expectations	Normative values		Evaluative response			Measure of fit
		Internal	External	Reactions	Consequences	Results	
Early adult transition —— 22 yrs	5	1a(F) 2a+b	1a,b,c 2a,b	b	b	c	Goodness of fit
		1b(M) 2a+b	1a,b,c 2a,b	b	b	c	Goodness of fit
Entering the adult world —— 25 yrs	6	1a(F) 2a+b	1a,b 2b,a	b	b	b	Goodness of fit
		1b(M) 2b+a	1b,c 2b,a	b	b(or)c	b	Goodness of fit
Age - 30 transition (conflict) —— 32 yrs	2,5,6	1a(F) 2b+a	1a,b 2b,a	b and a	b(or)a	b(or)a	Crisis/Poorness of fit
		1b(M) 2b+a	1b,c 2a,c	b and a	b(or)c	b(or)c	Crisis/Poorness of fit/Coping
Settling down or conflict & choice —— 40	6,7	1a(F) 2a	1a,b 2b,c	a	a	a	Poorness of fit
		1b(M) 2b	1c,b 2a,b	b and a	b(or)c	b(or)d	Coping/Achieving alternative goals
Middle adulthood 40 - 50 (choice)	6,7	1a(F) 2a(or)b	1a,b 2b	b	b	b(or)c	Coping/Achieving alternative goals
		1b(M) 2b(or)a	1c 2a,b	b	c	c(or)d	Coping/Goodness of fit
Culmination middle adulthood 50+	5,7	1a(F) 2a	1b 2b	b	b	c	Coping/Goodness of fit
		1b(M) 2b	1c 2a	b	c	d	Goodness of fit

- (2) A formative stage which represents a trial period during which women experience the demands arising from multiple roles (home-work); or when they have to confront changes in personal expectations, in role demands, and in personal needs, in order to adapt to the demands of the work situation;
- (3) A normative stage during which period women have to assess their own needs, environmental demands and establish the most acceptable coping approach in order to integrate different expectations and demands;
- (4) A performance stage during which the individual accepts responsibility for the consequences of decisions made during the formative and normative stages, which becomes evident in the 'central life interest' which the work role occupies.

Career commitment occurs when, during the normative stage, a woman decides that the work sub-identity is of singular importance in her life and consequently directs her personal efforts toward achievement in the work role. She may be guided in this by personal experiences at work and by masculine, independent, achievement-orientated personality values.

CHAPTER VIII

CONCLUSIONS AND RECOMMENDATIONS

'Can you,' I said, 'use any living creature for the same work as another unless you rear and train it in the same way?'

'No' he said.

'Then if we employ women at the same tasks as men, we must give them the same instruction?'

'Yes.'

Socrates and Glaucon: *The Republic of Plato*
(Lindsay, 1945; p.139)

I have come to realize that I was educated to be a successful man, and now must learn by myself how to be a successful woman.

Mirra Komarovsky
Women in the Modern World (1953; p.177)

Research into factors affecting female work and career commitment must recognise environmental barriers which inhibit the full utilisation of available womanpower. However, recognition is also necessary of personality factors and the interaction occurring between a woman and her changing life situations, because changing role expectations and role demands can also keep women from developing to their full potential.

Psychological assessment of traits and dispositions indicates the potential of an individual and what type of behaviour can be expected. Such information does not, however, give insight into why individuals differ or which aspects of different situations cause different behaviours in different kinds of personality.

The present study accepted that environmental barriers could inhibit the optimal development of women in the workplace. The main emphasis of this research was, however, to determine in what way and why do women differ in their experience and assessment of a work situation. The characteristics of persons and situations were jointly considered to arrive at some explanation for actually observed behaviour.

It was assumed that an examination of the occupational involvement of women, at different life phases and with different life and work experiences can give insight into how women with specific personality traits react to different experiences and how they cope with multiple role demands.

8.2 Conclusions

This study had two objectives.

The first objective was to identify psychological factors which could affect the work involvement and career commitment of graduated, White, employed women. Realising that a complex interweave occurs between the individual and her environment, and within an individual over time, some assessment was also made of age, and differences in work and life experiences found between and across cohort groups (Chapters IV, V and VI). This information assisted in meeting the second objective of the study, namely to develop a model of female work and career involvement across the adult life-span (Chapter VII).

8.2.1 Socialisation implications

The literature and background to the study, reviewed in Chapters I, II and III emphasised the fact that present-day women have to meet various role demands and that multiple role responsibilities may affect the individual's feelings of competence and worth, both socially and vocationally.

Males and females are socialised to aspire to adult life roles which are conventionally allocated to them in terms of the social and occupational structure. Socialisation of the individual in terms of either masculine or feminine behaviour can affect his or her educational and occupational expectations and aspirations.

Although the vocational aspirations of women seem to be changing, relatively few women, as yet, aspire to function within innovative, non-traditionally sex-linked occupations, which require independent and achievement-orientated behaviour. Such

behaviour is defined as masculine (agentic, instrumental) and contrasts with defined feminine behaviour (expressive, communal).

Recent research results (Bem 1974; Spence and Helmreich, 1978), have indicated, however, that cross gender type behaviour (androgynous behaviour) could be beneficial to individual performance in dealing with changing situations and in meeting adult life demands (Chapters II and III). Employed women, in particular, need the psychological freedom to engage in whatever behaviour seems to be most effective at the time, irrespective of its stereotyping as typically masculine or feminine. The transcending of traditionally socialised behaviour is particularly important if women are to achieve in the male-dominated working world (Chapter IV).

A woman's acceptance of traditional socialisation as the only behaviour option for acceptable male and female functioning can result in conflict and in experiences of poorness of fit between the 'self' and competitive, achievement-related work demands (Chapters I, II and III).

Traditional socialisation of women in terms of dependent, nurturant, feminine behaviour only is not realistic for developing women to meet present-day and future life demands (Rebecca et al., 1976; Huston-Stein and Higgins-Trenk, 1978). Women should be socialised to accept a more independent, androgynous behaviour style to assist them in meeting role demands requiring both assertive and nurturant behaviour (Chapters III and IV).

8.2.2 Personality requirements

Certain personality traits are particularly relevant for meeting work demands at senior and professional work levels (Donnell and Hall, 1980; Schein, 1976). These traits include a need to

achieve, independence, and assertiveness (Chapters II, III and IV).

Results of this study showed that women with a masculine (masculine and androgynous) sex role identity were significantly more achievement-orientated and more independent than their feminine (feminine and undifferentiated) sex role identity counterparts, irrespective of age or marital status (Chapter VI). Masculine sex role identity subjects were also significantly more interested in a career and in more complex jobs than their feminine sex role identity counterparts (Chapter VI).

The assumption that feminine sex role identity subjects would be more anxious than their masculine sex role identity counterparts, because a work role requires transcending of socialised expectations (Horner, 1978; Heilbrun, 1968; Jordan-Viola et al., 1976) was not upheld. It seems that different factors, relating to life situation, marital status, personality and age combine to result in feelings of anxiety (Chapter VI). These results also emphasise the relevance of assessing behaviour as the result of a continuously on-going, reciprocal, person-situation interaction process with some situations being psychologically more important than others (Magnusson, 1976). Women are required to construct and to reconstruct their behaviour to meet changing role demands. Timing of behaviour and changing ascendancies of needs influence women's life developmental patterns (Rossi, 1980) (Chapters II, IV, V, VI and VII).

8.2.3 Barriers affecting female work and career commitment

Subjects, participating in this study, experienced different barriers which inhibited the development of their skills and the full utilisation of their potential in the workplace. These

barriers were of two kinds, namely those external, and those internal to the subjects themselves.

8.2.3.1 External barriers

External barriers originated from different sources, namely discrimination experienced by them as women in the work situation; and barriers originating from marriage partners and home-care responsibilities (Albrecht and Gift, 1975; Huston-Stein and Higgins-Trenk, 1978):

(i) Although legislation aims at phasing out pay and other discriminatory policies, the problem of economic and workplace discrimination against women can be expected to remain for some time still. Capable women are often assessed, firstly in terms of their sex and only secondarily in terms of their skills and achievements (Shafer, 1974; Oppenheimer, 1973) (Chapter I);

(ii) Employed women often have to reconcile a husband's wishes and the moral obligations relating to home duties with their own need to achieve in the workplace. In the traditional marriage, a high power-role is ascribed to the husband. Accepting the husband's right to power can affect the wife's freedom to become involved in activities other than those traditionally expected of her (Safilios-Rothschild, 1970) (Chapter VI).

The lack of child-care facilities also restricts many women from fully participating in workplace activities.

8.2.3.2 Internal barriers

Barriers, internal to women themselves, are often overlooked or underrated when analysing factors affecting female career development. Women tend to isolate themselves in typical 'female' type of work (Terblanche, 1978; Wessels, 1975).

The reluctance of women generally to aspire to policy-making positions also contributes towards a climate of male reluctance to promote women who, individually, may wish to advance to higher level jobs (Hennig and Jardim, 1978) (Chapter I).

Female adult role expectations are closely allied to their biological role and motherhood responsibilities (Spitze and Waite, 1979; Waite, 1979). These expectations often result in anticipated short period work commitment, or, at best, an interrupted work career (Chapters II, III, IV and VII). The lack of long-term career interest also became evident in reasons put forward for the subjects' choice of academic subjects. Reasons included intrinsic interest in the subject matter without relating the value of the degree to general job opportunities or the development of a career (Kipnis, 1974).

Problems, encountered in combining work, and home and family demands, cause women to experience role conflicts (Gordon and Hall, 1971; Hall, 1972). Individual personality traits can generate such conflict. A noteworthy finding of the present study is that women with a feminine sex role identity, who would prefer to be housewives but who, due to economic circumstances, have to work, experience conflicts that differ from those experienced by women with a masculine sex role identity. The latter subjects may prefer to develop a career but, due to family demands they have to allow career opportunities to pass them by. Whereas the one group of women experience conflicts because they have to work, the other group experience conflicts because they cannot realise the work opportunities available to them (Chapters IV, V and VI).

8.2.3.3 Women need to develop a work role self-concept

Most women want to marry and have children. With this "dream" in mind, young women tend not to invest all their energies in seriously preparing for a career (Waite and Spitze, 1979; Spitze and Waite, 1979; Waite, 1979) (Chapters I, II, III and IV).

Women who combine work and marriage have to learn to live two lives in one life and for this they are not adequately socialised (Hennig and Jardim, 1978). Present-day women must recognise the necessity to develop a work role sub-identity to assist them in planning their life course and to reconcile work, biological and socio-cultural role demands (Rossi, 1980; Urberg and Labouvie-Vief, 1976; Huston-Stein and Higgens-Trenk, 1978) (Chapters II, III and IV). Women who work and who wish to develop a career have to assess the costs or sacrifices, compared to the benefits or rewards, and the size of the costs or benefits which may result from the work/home choices they make (Bernard, 1975; Hennig and Jardim, 1978) (Chapters II and IV).

Women who wish to ascend into positions of higher status and responsibility will have to develop an inner direction, which is not overruled by external or societal expectations or standards but which will assist them in competing with men (Broverman et al., 1972; Rebecca et al., 1976).

Employed women still have to accept the moral obligation of home-caring duties. This responsibility must be integrated with a personal definition of career goals and strategic planning aimed at achieving such goals (Emmerich, 1973; Theodore, 1971).

8.2.3.4 Women differ in terms of a work commitment and a career commitment

Many women who work, enjoy the work they do but they do not see it as the start of a strategically planned work career (Waite, 1979).

Work-involved subjects aim at achieving a personal balance between meeting work and home role demands, without making a specific choice of which role requires central commitment.

Career-committed subjects differ from their work-committed counterparts therein that, for them, work becomes a central life interest. Other life role demands are strategically planned to fit in with work and career demands (Hennig and Jardim, 1978; Miller et al., 1979; Ferree, 1979) (Chapters IV and VII).

Female career development does not necessarily result in women losing their feminine qualities (Almquist and Angrist, 1970). Women who function successfully in management jobs have been found to be no different from their male counterparts in capabilities (Schein, 1976; Lemkau, 1979). In some respects they were even better than the males because their feminine traits mitigate the less human-relations oriented masculine approach (Donnell and Hall, 1980) (Chapter VII).

If forced by circumstances, women may, depending on their personality, become either career- or home-committed. A significant finding of the present study is that work interest and the development of a career can become important to women at different life stages, depending on their life circumstances and their personality (Rabinowitz and Hall, 1977). Female career commitment does change over time and does seem to increase with age (Lowenthal, 1977) (Chapters VI and VII).

8.3 Recommendations

This study focused primarily on psychological differences as found amongst a sample of employed women, and the implications which this could have on the interest in work and development of a career by individual women.

The results showed that women seem to develop different values, which serve as meaningful motivators in their preference for certain choices of behaviour, irrespective of age or marital status.

The interest of women at work has increased over the past decade. This interest is evident, for instance, in the development of "Womanpower 2000". There are, however, still many questions that need to be answered, before optimum utilisation of our country's female resources can be achieved, and a need to explore this complex field remains.

Results of this study, furthermore, emphasise the specific need for guidance and counselling of women to achieve integration between the various life roles which they have to fulfil at different stages of their lives.

Specific career guidance, to assist women in meeting higher level and professional job demands is also necessary.

Guidance for personnel practitioners to assist them in their selection and development of female employees who are potential executive level job candidates is also required.

The possibility of differentiating between women in terms of sex role identity and associated personality traits and achievement motives, at different life stages, is of significant value. Such information can be of value concerning several major aspects of women's work life.

(i) It can assist in identifying the congruence, or measure of fit, between women's perceptions of the requirements for, and structure of, the work or career to which they may aspire, and their existing values and needs.

(ii) Greater insight into the personality and needs of a woman can add new dimensions to her guidance and counselling on future life roles; on the conflicts to be expected at different life stages, and the most effective manner of dealing with such conflicts.

(iii) Knowledge of a female employee's value system and needs can assist in developing her more effectively in the workplace. Supervisors and personnel managers can be assisted in their identification of suitable candidates for promotion and in the development of such candidates to meet senior- and executive-level job demands.

Career development strategies for women should involve:

- (a) guidance to utilise masculine or androgynous sex role characteristics if, and when, required;
- (b) assistance to overcome fear of failure;
- (c) assistance to function independently, and
- (d) guidance in coping with conflict at different life stages.

(iv) Traditional views of marriage can result in conflicts when, in meeting present-day economic demands, both husband and wife have to work. Similarly, when the husband wants to follow a less active pace or retire, and his wife feels she is in the process of achieving 'the chance of her life' in the work situation, conflict may ensue. Marriage counsellors who have to deal with marital conflicts, caused by conflicting "life course trajectories" (Lowenthal, 1975), can be assisted by increased knowledge of female life stage development.

(v) Working women with dependent children who have no alternative choice than to work can be assisted in resolving conflicting needs, and guilt feelings.

Literature which emphasises that working women are faced with discriminatory practices in the workplace (Glazer, 1977; Van der Merwe, 1978; Smit, 1978), that they experience role conflicts (de Beauvoir, 1965; Gordon and Hall, 1974) and that they should aspire to ascend to the executive suite (Hennig and Jardim, 1978; Schein, 1976), proliferate. Knowledge of

the reasons why women experience conflicts, how these conflicts influence their work role behaviour and how such conflicts should be dealt with is, however, lacking, and further research on these topics is required. Training women in assertiveness and role modelling can be valuable, provided such training is relevant to the personal values and environmental circumstances of the individual. Where such training is not relevant, the result can be increased conflict, frustration and interpersonal breakdown.

The following recommendations, based on the findings of this study, are made:

- (i) That comparable investigations be done on different samples of employed and unemployed women.
- (ii) That guidance be given to women of all ages on the changes occurring in their life roles and the implications of following the traditional, socialised life role expectations without questioning their applicability to present-day realities.
- (iii) That workshops be held to assist women, experiencing conflicting life situations, to obtain insight into their conflicts and to guide them in resolving these conflicts.
- (iv) That in-company training courses be developed to guide women in accepting professional and executive level job responsibilities.

It is essential that a life-span perspective should be incorporated in the selection, guidance and professional training programmes involving women in the workplace. However, the

process of development is an important normative process occurring throughout the adult years of both men and women, and greater insight into, and recognition of, male adult needs provides its own research challenges. Men, too, need counselling and guidance in the development of appropriate strategies to meet changing life demands.

It is therefore recommended that research be done on samples of males during different life phases to determine similarities and differences between employed males and females in comparable life phases.

It is furthermore recommended that studies be done to determine the extent to which:

- (i) traditional stereotypes still exist among male managers' perception of female managers; and
- (ii) traditional stereotypes influence female managers' perception of male and female superiors, subordinates and peers.

In our efforts to meet the experienced and expected manpower shortfalls of this country we need to affirm what is best in both men and women. We should therefore allow women to develop their possibilities " in her own interest and in the interest of all" (de Beauvoir, 1965, p.673).

BIBLIOGRAPHY

- Adam, R. A Woman's Place 1910-1975. London: Chatto and Windus, 1975.
- Adcock, N.V., Adcock, C.J., and Walkey, F.H. Basic Dimensions of Personality. International Review of Applied Psychology, 1974, 23 (2), 131-136.
- Ahammer, I.M. Social Learning Theory as Framework for the Study of Adult Personality Development. In P.B. Baltes and K.W. Schaie (Eds.), Life-Span Developmental Psychology, New York: Academic Press Inc., 1973. 253-284.
- Albrecht, G.L. and Gift, H.C. Adult Socialization: Ambiguity and Adult Life Crises. In N. Datan and L.H. Ginsberg (Eds.) Life-span Developmental Psychology, New York: Academic Press, 1975, 237-252.
- Alexander, K. and Eckland, B.K. Sex Differences in the Educational Attainment Process. American Sociological Review, 1974, 39, 668-682.
- Al-Issa, I. The Psychopathology of Women. Englewood-Cliffs, New Jersey: Prentice-Hall Inc., 1980.
- Alker, H.A. Beyond Anova Psychology in the Study of Person-Situation Interactions. In D. Magnusson and N.S. Endler (Eds.), Personality at the Crossroads, New York: John Wiley, Halsted Press, 1977, 243 - 256.
- Allport, G. Becoming. New Haven, Connecticut: Yale University Press, 1955.
- Almquist, E.M. and Angrist, S.S. Career Salience and a-typicality of Occupational Choice among College Women. Journal of Marriage and the Family, 1970, 32, 242-249.
- Alper, T.G. The relationship between role orientation and achievement motivation in college women. Journal of Personality, 1973, 41, 9-31.

- Alper, T.G. Achievement Motivation in college women: A now-you-see-it-now-you-don't phenomenon. American Psychologist, 1974, 29, 194-203.
- Anastasi, A. Differential Psychology; individual and group differences in behavior. 3rd ed. New York: Macmillan, 1958.
- Angrist, S.S. Role Conception as a Predictor of Adult Female Roles. Sociology and Social Research, 1966, 50, 448-459.
- Angrist, S.S. The Study of Sex-roles. Journal of Social Issues, 1969, 25 (1), 215-232.
- Argyris, C. Integrating the Individual and the organisation. New York: Wiley, 1964.
- Argyris, C. Some unintended consequences of rigorous research. Psychological Bulletin, 1968, 70 (3), 185-197.
- Atkinson, J.W. Motivational Determinants of Risk-taking Behavior. Psychological Review, 1957, 64, 359-372.
- Atkinson, J.W. The Mainsprings of Achievement-oriented activity. In J.W. Atkinson and J.O. Raynor (Eds.), Personality Motivation and Achievement. New York: Hemisphere Publishing Corporation, 2nd ed., 1978, 11-39.
- Atkinson, J.W. and Feather, N.T. A Theory of Achievement Motivation. New York: John Wiley and Sons, 1966.
- Atkinson, J.W. and Litwin, G.H. Achievement motive and test anxiety conceived as motive to approach success and motive to avoid failure. Journal of Abnormal and Social Psychology, 1960, 60, 52-63.
- Atkinson, J.W. and Raynor, J.O. Personality, Motivation and Achievement. New York: Hemisphere Publishing Corporation, John Wiley and Sons, 1978.
- Babl, J.D. Compensatory Masculine Responding as a Function of Sex Role. Journal of Consulting and Clinical Psychology, 1979, 47 (2), 252-257.

- Bachtold, L.M. Similarities in personality profiles of college and career women. Psychological Reports, 1973, 33, 429-430.
- Bachtold, L.M. and Werner, E.E. Personality Characteristics of creative women. Perceptual and Motor Skills, 1973, 36, 311-319.
- Bailyn, L. Notes on the Role of Choice in the Psychology of Professional Women. Daedalus, 1964, 93, 700-710.
- Bakan, D. The Duality of Human Existence. Chicago: Rand McNally and Co., 1966.
- Baltes, P.B. Life-Span Developmental Psychology: Some Converging Observations on History and Theory. In P.B. Baltes and O.G. Brim (Eds.), Life-Span Development and Behavior, Vol. 2. New York: Academic Press, 1979, 255-279.
- Baltes, P.B. and Goulet, L.R. Status and Issues of a Life-Span Developmental Psychology. Research and Theory. In C.R. Goulet and P.B. Baltes (Eds.), Life-Span Developmental Psychology, New York: Academic Press, 1970, 3-21.
- Baltes, P.B. and Goulet, L.R. Exploration of Developmental Variables by Manipulation and Simulation of Age Differences. Human Development, 1971, 14, 149-170.
- Bandura, A. The Self System in Reciprocal Determinism. American Psychologist, April 1978, 344-358.
- Bandura, A. Aggression. A Social Learning Analysis. New Jersey, Englewood Cliffs: Prentice Hall Inc., 1973.
- Bandura, A. and Walters, R.H. Social Learning and Personality Development. New York: Holt, Rinehart and Winston, 1963.
- Bardwick, J.M. The Psychology of Women. New York: Harper and Row Publications, 1971.

- Bardwick, J.M. The Sex Hormones, the Central Nervous System and Affect Variability in Humans. In V. Franks and V. Burtie (Eds.), Women in Therapy, New York: Brunner/Mazel, 1974.
- Barwick, J.M. Readings on the Psychology of Women. New York: Harper and Row, 1972.
- Barnett, R.C. and Baruch, G.K. Women in the Middle Years: A Critique of Research and Theory. Psychology of Women Quarterly, 3 (2), Winter 1978, 187-197.
- Baruch, R.W. The Achievement Motive in Women: Implications for Career Development. Journal of Personality and Social Psychology, 1967, 53, 260-267.
- Baumgarten, F. Die Regulierungskräfte im Seelenleben. DACP-Taschenbücher, Band 310, Bern: A. Francke A.G., 1955.
- Bavelas, J.B. Personality: Current Theory and Research. Belmont, California: Wadsworth Publishing Co. Inc., 1978.
- Bayes, M. and Newton, P.M. Women in Authority. A Sociological Analysis. The Journal of Applied Behavioral Science, Jan-March 1978, 14 (1), 7-20.
- Becker, H.S. Notes on the Concept of Commitment. American Journal of Sociology, 1961, 66, 32-40.
- Becker, W.C. The matching of behavior rating and questionnaire personality factors. Psychological Bulletin, 1960, 57, 201-212.
- Beehr, T.A. Perceived situational moderators of the relationship between subjective role ambiguity and role strain. Journal of Applied Psychology, 1976, 61, 35-40.
- Beilin, H. The Application of General Developmental Principles to the Vocational Area. Journal of Counseling Psychology, 1955, 2, 53-57.
- Bell, C.S. Economics, Sex and Gender. In N. Glazer and H.Y. Waehrer (Eds.), Women in a Man-Made World, 2nd ed., Chicago: Rand McNally College Publishing Co., 1977, 30-38.

- Belle, D.E. and Tebbetts, R.F. Poverty, Work and Mental Health: The Experiences of Low-Income Mothers. NATO Symposium, Women and the World of Work, Lisbon, Portugal, August 1980.
- Bem, S.L. The Measurement of Psychological Androgyny. Journal of Consulting and Clinical Psychology, 1974, 42 (2), 155-162.
- Bem, S.L. Sex-Role Adaptability: One Consequence of Psychological Androgyny. Journal of Personality and Social Psychology, 1975, 31 (4), 634-643.
- Bem, S.L. Psychology looks at sex roles: Where have all the androgynous people gone? Paper presented at ULCA Symposium on Women, May 1972.
- Bem, S.L. Theory and Measurement of Androgyny: A Reply to the Pedhazur-Tetenbaum and Locksley-Colten critiques. Journal of Personality and Social Psychology, 1979, 37 (6), 1047-1054.
- Bem, S.L. On the utility of alternative procedures for assessing psychological androgyny. Journal of Consulting and Clinical Psychology, 1977, 45, 196-205.
- Bem, S.L. and Lenney, E. Sex Typing and Avoidance of Cross-Sex Behavior. Journal of Personality and Social Psychology, 1976, 33 (1), 48-54.
- Bem, S.L. and Watson, C. Scoring Packet: Bem Sex-Role Inventory. Mimeographed Revised edition 4176, 1976.
- Bem, S.L., Martyna, W. and Watson, C. Sex typing and androgyny: Further explorations of the expressive domain. Journal of Personality and Social Psychology, 1976, 34 (5), 1016-1023.
- Bennis, W. Changing Organisations. New York: McGraw-Hill, 1966.
- Bernard, J. The future of marriage. New York: Bantam Books, 1972.
- Bernard, J. The future of motherhood. New York: Dial Press, 1974.

- Bernard, J. Homosociality and Female Depression. Journal of Social Issues, 1976, 32 (4), 213-238.
- Bernard, J. Comments on Glenn's Paper. Journal of Marriage and the Family, 1975, 37, 600-601.
- Bernard, J.S. Women, Wives, Mothers: Values and Options. Chicago: Aldine Publishing Co., 1975.
- Bernard, L.C. Multivariate Analyses of New Sex Role Formulations and Personality. Journal of Personality and Social Psychology, 1980, 38 (2), 323-336.
- Berzins, J.I., Wellung, M.A., and Wetter, R.E. A New Measure of Psychological Androgyny Based on the Personality Research Form. Journal of Consulting and Clinical Psychology, 1978, 46 (1), 126-138.
- Bieri, J. Parental identification, acceptance of authority and within-sex differences in cognitive behaviour. Journal of Abnormal and Social Psychology, 60 (1), 76-79.
- Blalock, H.M. Social Statistics (2nd ed.), New York: McGraw Hill, 1972.
- Block, J.H. Conceptions of Sex Roles: Some Cross-Cultural and Longitudinal Perspectives. American Psychologist, 1973, 28 (6), 512-526.
- Block, J.H. Issues, Problems and Pitfalls in Assessing Sex Differences: A Critical Review of the Psychology of Sex differences. Merrill-Palmer Quarterly, 1976, 22 (4), 281-308.
- Block, J., Van der Lippe, A., and Block, J.H. Sex role and socialization patterns: Some personality concomitants and environmental antecedents. Journal of Consulting and Clinical Psychology, 1973, 41 (3), 321-341.
- Boserup, E. Woman's Role in Economic Development. London: George Allen and Unwin, 1970.
- Bowers, O.G. Situationism in Psychology: An analysis and a critique. Psychological Review, 1973, 80 (5), 307-336.

- Brim, O.G. Socialization through the Life Cycle. In O.G. Brim, Jr. and S. Wheeler (Eds.), Socialization after Childhood, New York: Wiley, 1966, 61-83.
- Brim, O.G. Theories of the Male Mid-Life Crisis. Counseling Psychologist, 1976, 6, 2-9.
- Brissett, D. Toward a Clarification of Self-Esteem. Psychiatry, 1972, 35 (3), 255-263.
- Broverman, I., Broverman, O., Clarkson, F., Rosenkrantz, P., and Vogel, S. Sex-role stereotype and clinical judgements of mental health. Journal of Consulting and Clinical Psychology, 1970, 34, 1-7.
- Broverman, I.K., Vogel, S.R., Broverman, O.M., Clarkson, F.E. and Rosenkrantz, P.S. Sex-Role Stereotypes: A Current Appraisal. Journal of Social Issues, 1972, 28 (2), 59-78.
- Bühler, C. Psychology of Life-span. In S. Krauss (ed.) Encyclopaedic Handbook of Medical Psychology. London: Butterworth, 275-278, 1976.
- Bühler, C. Der menschliche Lebenslauf als Psychologisches Problem. Göttingen: Verlag für Psychology, 1933.
- Bühler, C., Harvey, H. and Kube, E. Der menschliche Lebenslauf als Psychologisches Problem. (2nd ed.) Göttingen; G.J. Hogrefe, 1959.
- Burnstein, E. Fear of Failure, achievement motivation and aspiring to prestigious occupations. Journal of Abnormal and Social Psychology, 1963, 67 (2), 189-193.
- Buss, A.R. A Conceptual Framework for Learning. Effecting the Development of Ability Factors. Human Development, 1973, 16, 273-292.
- Buytendijk, F.J.J. Woman: A Contemporary View. Translated by D.J. Burnett. Glen Rock New Jersey: Newman Press, 1968.

- Carlson, R. Sex Differences in Ego functioning: exploratory studies of agency and communion. Journal of Consulting and Clinical Psychology, 1971, 37 (2), 267-277.
- Carlson, R. Understanding Women. Implications for Personality Theory and Research. Journal of Social Issues, 1972, 28 (2), 17-32.
- Cattell, R.B. Personality and Learning Theory. (Vol. 1) The Structure of Personality in its Environment. New York: Springer Publishing Co., 1979.
- Cattell, R.B., Eber, H.W. and Tatsuoka, M.M. Handbook for the Sixteen Personality Factor Questionnaire (16 PF). Illinois: Institute for Personality and Ability Testing, 1974.
- Cattell, R.B., Eber, H.W. and Tatsuoka, M.M. Sixteen Personality Factor Questionnaire (16 PF). Illinois: Institute for Personality and Ability Testing, 1970.
- Cattell, R.B. and Kline, P. The Scientific Analysis of Personality and Motivation. New York: Academic Press, 1977.
- Cattell, R.B. and Dreger, R.M. (Eds.). Handbook of modern personality theory. New York: A Halsted Press Book, John Wiley and Sons, 1977.
- Clarkson, F.E., Vogel, S.R., Broverman, I.K., and Broverman, D.M. Family Size and Sex-Role Stereotypes. Science, 23 January 1970, 167, 390-392.
- Coetzee, C.J.S. Tersiëre Onderwys en Beroepspotensiaal van Vroue. D.Ed.-verhandeling, Potchefstroom: Potchefstroomse Universiteit vir CHO, 1977.
- Condry, J. and Dyer, S. Fear of Success: Attribution of Cause to the Victim. Journal of Social Issues, 1976, 32 (3) 63-83.
- Constantini, E. and Craik, K. Women as Politicians: The Social Background, Personality, and Political Careers of Female Party Leaders. Journal of Social Issues, 1972, 28 (2), 217-236.

- Constantinople, A. Masculinity - Femininity: An Exception to a Famous Dictum? Psychological Bulletin, 1973, 80 (5), 389-407.
- Coopersmith, S. The Antecedents of Self-Esteem. San Francisco: W.H. Freeman and Co., 1967.
- Cosentino, F. and Heilbrun, A.B. Anxiety correlates of sex-role identity in College Students. Psychological Reports, 1964, 14, 729-730.
- Costrich, N., Feinstein, J., Kidder, L., Marecek, J. and Pascale, L. When stereotypes hurt: Three studies of penalties for sex-role reversals. Journal of Experimental Social Psychology, 1975, 11 (6), 520-530.
- Crites, J.O. The Study of Vocational Behavior and Development. Vocational Psychology, New York: McGraw-Hill Book Co., 1969.
- Crites, J.O. A Comprehensive Model of Career Development in Early Adulthood. Journal of Vocational Behavior, 1976, 9, 105-118.
- Crown, D.P. and Marlowe, D. The Approval Motive. Studies in Evaluative Dependence. New York: John Wiley and Sons, 1964.
- Damon, W.V. Early conceptions of positive justice as related to the development of logical operations. Child Development, 1975, 46, 301-312.
- D'Andrade, R.C. Sex Differences and Cultural Institutions. In E.E. Maccoby (Ed.), The Development of Sex Differences. London: Tavistock Publications, 1967, 174-204.
- Deaux, K. and Emswiller, T. Explanation of successful performance on sex-linked tasks: what is skill for the male is luck for the female. Journal of Personality and Social Psychology, 1974, 29, 80-85.
- De Beauvoir, S. The Second Sex. Middlesex, England: Penguin Books, 1965.

- De Charms, R. and Muir, M.S. Motivation: Social Approaches. In M.R. Rosenzweig and L.W. Porter (Eds.), Annual Review of Psychology, Palo Alto, California: Annual Reviews Inc., 1978, 91-113.
- Delaney, J., Lupton, M.J., and Toth, E. The Curse. A Cultural History of Menstruation. New York: A Sunrise Book, Dutton and Co. Inc., 1976.
- Deutsch, H. The Psychology of Women; A Psychoanalytic Interpretation. New York: Grune and Stratton, 1944-45.
- Donnell, S.M. and Hall, J. Men and Women as Managers: A Significant Case of No Significant Difference. Organizational Dynamics, Spring 1980, AMACOM, 60-77.
- Dowdall, D. Structural and Attitudinal Factors Associated with Female Labor Force Participation. Social Science Quaterly, 1974, 55, 127-130.
- Dubin, R. Industrial Workers' Worlds: A Study of the Central Life Interests of Industrial Workers. Social Problems, 1956, 3, 131-142.
- Edwards, C.N. Cultural values and role decisions: a study of educated women. Journal of Counseling Psychology, 1969, 16, 36-40.
- Ekehammer, B. Interactionism in Personality from a Historical Perspective. Psychological Bulletin, 1974, 81 (12), 1026-1048.
- Ekehammer, B. Test of a Psychological Cost-Benefit Model for Career Choice. Journal of Vocational Behavior, 1977, 10, 245-260.
- Ellis, L.J. and Bentler, P.M. Traditional Sex-Determined Role Standards and Sex Stereotypes. Journal of Personality and Social Psychology, 1973, 24, 28-34.
- Emmerich, W. Socialization and Sex-Role Development. In P.B. Baltes and K.W. Schaie (Eds.), Life-Span Developmental Psychology, New York: Academic Press, 1973, 124-144.

- Endler, N.S. The Person Versus the Situation - a Pseudo Issue?
A response to Alker. Journal of Personality, 1973, 41,
287-303.
- Endler, N.S. and Magnusson, D. Toward an International Psychology
of Personality. Psychological Bulletin, 1976, 83,
956-974.
- Epstein, C.F. Woman's Place. Options and Limits in Professional
Careers. Berkely: University of California Press, 1970.
- Epstein, C.F. Encountering the Male Establishment: Sex-status
limits on woman's careers in the professions. In A.
Theodore (Ed.), The Professional Woman. Cambridge
Massachusetts: Schenkman Publishing Co. Inc., 1971,
52-73.
- Epstein, S. The Self-Concept Revisited: Or a Theory of a Theory.
American Psychologist, 1973, 28, 404-416.
- Equal Opportunities for Women. OECD Working Paper. The OECD
Observer, No. 97, Paris: March 1979, 27-32.
- Erikson, E. Childhood and Society. New York: W.W. Norton, 1950.
- Erikson, E.H. Growth and Crises of the Healthy Personality.
Psychological Issues, 1959, 1, 50-100.
- Erikson, E.H. Identity and the Life Cycle. Psychological Issues,
1959, 1, 1-171.
- Erikson, E.H. Identity: Youth and Crisis. New York: W.W. Norton
and Co. Inc. (paper edition), 1968.
- Eyde, L.D. Work Values and Background Factors as Predictors of
Women's Desire to Work. Research Monograph No 108,
Bureau of Business Research, Columbus, Ohio: The Ohio
State University, 1962.
- Farnham, M.F. and Lundberg, F. Modern woman, the lost sex.
New York: Harper and Brothers, 1947.

- Faunce, W.A. Work, Status and Self Esteem. U.S. Department of Commerce. NITS, PB-267 138, 1976.
- Feather, N. and Raphelson, A. Fear of Success in Australian and American Student Groups: Motive or sex-role. Journal of Personality, 1974, 42, 190-201.
- Featherman, D.L. Achievement Orientations and Socioeconomic Careers Attainments. American Sociological Review, April, 1972, 37, 131-143.
- Ferree, M.M. Causal models of stability and change in women's work. Relevant attitudes and employment behavior. Department of Sociology, University of Connecticut. N.T.I.S. Dept. of Labor, Employment and Training Administration, Washington, D.C., 1979.
- Festinger, L. A Theory of Cognitive Dissonance. Evaston: 111, Row, Peterson, 1957.
- Fiedler, F.E. What Triggers the Person-Situation Interaction in Leadership? In D. Magnusson and N.S. Endler (eds.), Personality at the Crossroads: Current Issues in Interactional Psychology. New York: John Wiley, 1977, 151-163.
- Fitzgerald, L.F. and Crites, J.O. Career Counseling for Women. The Counseling Psychologist, 8,1, 1979, 33-34.
- French, J.R.P. (Jr) and Caplan, R.D. Organization Stress and Strain. In A.J. Marrow (ed.), The Failure of Success, New York, AMACOM 1972, 30-66.
- French, E. and Lesser, G.S. Some characteristics of the achievement motive in women. Journal of Abnormal and Social Psychology, 68, 1964, 119-128.
- Freud, S. Collected papers. Numbers 7, 8, 9, 10 and 37. Authorized translation, Joan Riviere, London: Hogarth Press, 1953.
- Friedan, B. The Feminine Mystique. London: Gollancz. 1964.

- Gage, M.G. Economic Role of Wives and Family Economic Development. Journal of Marriage and the Family, 37, 1, 1975, 121-128.
- Gaudreau, P. Factor analysis of the Bem Sex-role Inventory. Journal of Consulting and Clinical Psychology, 45, 2, 1977, 299-302.
- Gerdes L.C. Is there a place for femininity in contemporary society? Inaugural Lecture, Pretoria: University of South Africa, 1972.
- Gerdes, L.C. A Life-History Study of Psycho-Soma-role Interaction in Climacteric Women. Unpublished Doctoral Thesis. Pretoria: University of South Africa, 1979.
- Gerdes, L.C., Ochse, R., Stander, C. and Van Ede, D. The Developing Adult, Durban: Butterworth and Co. S.A., 1981.
- Gilligan, C. Woman's Place in Man's Life Cycle. Harvard Educational Review, 49, 4, 1979, 431-446.
- Ginzberg, E. Toward a Theory of Occupational Choice: A Restatement. Vocational Guidance Quarterly, 20, 1972, 169-176.
- Ginzberg, E., Ginsburg, S.W., Axelrod, S. and Herma, J.L. Occupational Choice: An Approach to a General Theory. New York: Columbia Univ. Press, 1951.
- Glazer, N. The Subjection of Women. A sociological Perspective. Introduction. In N. Glazer and H.V. Waehrer (eds.), Woman in a Man-made World, Chicago: Rand McNally College Publishing Co. (2nd ed.), 1977, 101.
- Goldberg, C. Sex Roles, Task Competence and Conformity. Jnl of Psychology, 1974, 86, 157-164.
- Goleman, D. Special Abilities of the Sexes: Do They Begin in the Brain. Psychology Today, 1978 November, 12 (6), 48-59.
- Goode, W.J. (a) A Theory of Role Strain. American Sociological Review, 1960, 25, 483-496.

- Goode, W.J. (b) Norm Commitment and Conformity to Role-Status Obligations. American Jnl of Sociology, 1960, 66, 246-258.
- Gordon, F.E. and Hall, D.T. Self-image and stereotypes of femininity: Their relationship to woman's role conflicts and coping. Journal of Applied Psychology, 1974, 59, 241-243.
- Gould, R.L. The Phases of Adult Life: A Study in Developmental Psychology. The American Journal of Psychiatry, 1972 November, 33-78.
- Gould, R. Adult Life Stages: Growth Toward Self-Tolerance. Psychology Today, 1975 February, 8, 74-78.
- Gouldner, A.W. Organisational Analysis. In R.K. Merton, L. Broom and L.S. Cottrell (eds.), Sociology Today, New York: Basic Books, 1959, 400-429.
- Gove, W.R. The relationship between sex roles, marital status and mental illness. Social Forces, 1972, 51, 34-44.
- Gove, W.R. Mental Illness and Psychiatric Treatment Among Women Psychology of Women Quarterly, 1980, 4 (3), 345-362.
- Greenwald, A.G., and Ronis, D.L. Twenty years of cognitive dissonance: Case study of the Evolution of a Theory. Psychological Review, 1978, 85 (1), 53-57.
- Griffore, R.T.J., and Lewis, J. The Mehrabian Measures of Achieving Tendency: Are seperate Male and Female scales necessary? Journal of Personality Assessment, 1978, 42 (6), 621-625.
- Gump, J.P. Sex-Role Attitudes and Psychological Well-Being. Journal of Social Issues, 1972, 28 (2), 79-92.
- Halas, C.M. Sex-role stereotypes: Perceived childhood socialisation experiences and the attitudes and behavior of adult women. The Journal of Psychology, 1974, 88, 261-275.

- Hall, D.T. A Theoretical Model of Career Subidentity Development in Organizational Settings. Organizational Behavior and Human Performance, 1971, 6, 50-76.
- Hall, D.T. A Model for Coping with Role-Conflict: The Role Behavior of College Educated Women. Administrative Science Quarterly, 1972, 17, 471-486.
- Hall, D.T. Pressures from work, self and home in the life stages of married women. Journal of Vocational Behavior, 1975, 6, 121-132.
- Hall, D.T. and Gordon, F.E. Career Choices of married women. Effects on conflict, role, behavior and satisfaction. Journal of Applied Psychology, 1973, 58, 42-48.
- Hall, C.S., and Lindzey, G. Theories of Personality. (2nd Ed.) New York: John Wiley, 1970.
- Hall, C.S. and Lindzey, G. Theories of Personality. (3rd Ed.) New York: John Wiley, 1978.
- Harmon, L.W. Anatomy of Career Commitment in Women. Journal of Counseling Psychology, 1970, 17, 77-86.
- Harren, V.A., Richard, A., Tinsley, H.E.A. and Moreland, T.P. Influence of sex-role attitudes and cognitive styles on career decision making. Journal of Counseling Psychology, 1978, 25, 390-398.
- Hartford, T.C., Willis, C.H., and Deabler, H.I. Personality Correlates of Masculinity-Femininity. Psychological Reports, 1967, 21, 881-884.
- Havighurst, R.J. History of Developmental Psychology: Socialisation and Personality Development through the Life Span. In P.B. Baltes and K.W. Schaie (eds.), Life-Span Developmental Psychology, New York: Academic Press, 1973, 4-24.
- Heckhausen, H. Fear of Failure as a self-reinforcing motive system. In I.G. Sarason and C. Spielberger (eds.), Stress and Anxiety, Vol II, Washington, D.C.; Hemisphere, Halsted Press, 1975, 117-128.

- Heilbrun, A.B. Sex role identity and achievement motivation. Psychological Reports, 1963, 12, 483-490.
- Heilbrun, A.B. Sex role, instrumental-expressive behavior and psychopathology in females. Journal of Abnormal Psychology, 1968, 73, 2, 252-257.
- Heilbrun, A.B. Measurement of Masculine and Feminine Sex Role identities as Independent Dimensions. Journal of Consulting and Clinical Psychology, 1976, 44 (2), 183-190.
- Heilbrun, C.G. Toward a recognition of androgyny. London: Gollancz, 1973.
- Heilbrun A.B., Kleemeier C., and Piccola, G. Developmental and situational correlates of achievement behavior in college females. Journal of Personality, 1974, 42, 420-436.
- Heilbrun, A.B., Piccola, G., and Kleemeier, C. Male sex-gender identification: A source of achievement deficit in college females. Journal of Personality, 1975, 43, 678-692.
- Helmreich, R.L., Spence, J.T., and Holahan, C.K. Psychological Androgyny and Sex Role Flexibility: A Test of two hypotheses. Journal of Personality and Social Psychology, 1979, 37 (10), 1631-1644.
- Helson, R. The changing image of the career woman. Journal of Social Issues, 1972, 28, 2, 33-46.
- Hennig, M., and Jardim, A. The Managerial Woman. London: Pan Books, 1978.
- Henry, W.E. The Role of Work in Structuring the Life Cycle. Human Development, 1971, 14, 125-131.
- Hilton, T.L. Career Decision Making. Journal of Counseling Psychology, 1962, 9, 291-298.
- Hjelle, L.A., and Butterfield, R. Self Actualization and Women's attitudes towards their roles in contemporary society. The Journal of Psychology, 1974, 87, 225-230.

- Hoffman, L.W. Early Childhood Experiences and Women's Achievement Motives. Journal of Social Issues, 1972, 28 (2), 129-155.
- Hoffman, M.C. Moral Internalization: Current Theory and Research. In L. Berkowitz (ed), Advances in Experimental Social Psychology, Vol 10, New York: Academic Press, 1977, 85-133.
- Hoffman, L.W., and Nye, F.I. Working Mothers. San Francisco: Jossey Bass: 1974.
- Holland, J.L. The Psychology of Vocational Choice: A Theory of Personality Types and Model Environments. Waltham, Massachusetts: Blaisdell Publishing Company, 1966.
- Holland, J.C. Making Vocational Choices: A Theory of Careers. Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1973.
- Hollander, J. Sex Differences in Sources of Social Self-Esteem. Journal of Consulting and Clinical Psychology, 1972, 38, 343-347.
- Holstrom, E.I. Changing sex roles in a developing country. Journal of Marriage and the Family, 1973, August, 546-553.
- Holter, H. Sex Roles and Social Change. Acta Sociologica, 1971 14, 1-2,
- Homans, P. Jung in Context. Modernity and the Making of a Psychology. Chicago: University of Chicago Press, 1979.
- Hordern, A. "Men must work and" South African Medical Journal, 1978, 9 December, 1026-1032.
- Horner, M.S. Toward an Understanding of Achievement-Related Conflicts in Women. Journal of Social Issues, 1972, 28 (2), 157-175.
- Horner, M.S. Fail Bright Woman: In A Theodore (ed), The Professional Woman, Cambridge, Mass: Schenkman Publishing Co., 1971, 252-259.
- Horner, M.S. Toward an understanding of achievement related conflicts in women. In M.T.S. Mednick, S.S. Tangri and L.W. Hoffman (eds.), Women and Achievement: Social and Motivational Analyses, Washington D.C.: Hemisphere Halsted Press 1975.

- Horner, M.S. The Measurement and Behavioral Implications of Fear of Success in Women. In J.W. Atkinson en J.O. Raynor (Eds.), Personality, Motivation and Achievement. New York: Hemisphere Publ. Corp., John Wiley, 1978, 41-70.
- House, W.C. Actual and perceived differences in male and female expectancies and minimal goal levels as a function of competition. Journal of Personality, 1974, 42, 493-509.
- Hout, M., and Morgan, W.R. Race and Sex Variations in the causes of the expected attainments of High School Seniors. American Journal of Sociology, 1975, 81, 364-394.
- Hultsch, D.F. and Plemons, J.K. Life Events and Life-span Development. In P.B. Baltes and O.G. Brim (Jr.) (Eds.), Life-span Development and Behavior, Vol 2, New York: Academic Press, 1979, 1-36.
- Human Sciences Research Council. Norm Tables for Cattell's 16P.F. Pretoria: HSRC, 1978.
- Huston-Stein, A., and Higgins-Trenk, A. Development of females from Childhood through Adulthood: Career and Feminine Role Orientations. In P.B. Baltes (ed), Life-span Development and Behavior, Vol 1, New York: Academic Press, 1978, 258-297.
- In't Veld Langeveld, H.M. Vrouw-beroep-maatschappij: Analyse van een vertraagde emancipatie. Utrecht: Uitgeverij Bijleveld, 1969.
- Jackson, E.F. Status consistency and symptoms of stress. American Sociological Review, 1962, 27, 469-480.
- Jersild, A.T., Brook, J.S., and Brook, D.W. The Psychology of Adolescence. New York: MacMillan Publ. Co. (3rd. ed.), 1978.
- Jordaan, J.P. The Use of Vocational Maturity Instruments in Counseling. In D.E. Super (ed), Measuring Vocational Maturity for Counseling and Evaluation. Washington, D.C.: National Vocational Guidance Association, 1974.

- Jordaan, J.P. Career Development Theory. International Review of Applied Psychology, 1977, 26 (2), 107-114.
- Jordan-Viola, E., Fassberg, S., and Viola, M.T. Feminism, Androgyny and Anxiety. Journal of Consulting and Clinical Psychology, 1976, 44 (5), 870-871.
- Joubert, R.J.O. Some Economic Aspects of South African Educational Investments: An Earning Function Approach. Unpublished D.Comm thesis, Johannesburg: Rand Afrikaans Univ., 1976.
- Kagan, J. Acquisition and Significance of Sex-Typing and Sex Role Identity. In M.L. Hoffman and L.W. Hoffman (eds.), Review of Child Development Research, New York: Russell Sage Foundation 1, 1964, 137-167.
- Kagan, J., and Moss, H.A. Birth to Maturity: A Study in Psychological Development. New York: Wiley, 1962.
- Kahn, R., Wolfe, D., Quinn, R., Snoek, J., and Rosenthal, R. Organisational Stress, New York: Wiley, 1964.
- Kasl, S.V. Mental Health and Work Environment: An Examination of the Evidence. Journal of Occupational Medicine, 1973, 15 (6), 509-518.
- Kasl, S.V., and Cobb, S. Physical and mental health correlates of status incongruence. Social Psychiat, 1971, 6, 1-10.
- Kearney, H.R. Feminist Challenges to the Social Structure and Sex Roles. Psychology of Women Quarterly, 1979, 4 (1), 16-31.
- Kelly, J.A., and Worrell, J. New Formulations of Sex Roles and Androgyny: A critical review. Journal of Consulting and Clinical Psychology, 1977, 45 (6), 1101-1115.
- Kipnis, D.M. Inner Direction, Other Direction and Achievement Motivation. Human Development, 1974, 17, 321-343.
- Kleeman, J.A. The Establishment of Core Gender Identity in Normal Girls. Archives of Sexual Behavior, 1971, 1 (2), 103-129.

- Klemmach, D.L., and Edwards, J.N. Women's Acquisition of Stereotyped Occupational Aspirations. Sociology and Social Research, 1973, 57, 540-545.
- Kohlberg, L. A Cognitive Developmental Analysis of Children's Sex Role Concepts and Attitudes. In E.E. Maccoby (ed), The Development of Sex Differences, Stanford: Stanford University Press, 1966, 82-173.
- Kohlberg, L. Continuities in childhood and adult moral development revisited. In P.B. Baltes and K.W. Schaie (eds.), Life-span Developmental Psychology: Personality and Socialization, New York: Academic Press, 1973, 179-204.
- Kohn, M.L., and Schooler, C. Occupational Experience and Psychological Functioning. An Assessment of Reciprocal Effects. American Sociological Review, 1973, 38, 97-118.
- Komarovsky, M. Cultural Contradictions and Sex Roles. American Journal of Sociology, 1946, 52, November, 182-189.
- Komarovsky, M. Women in the modern World. Boston: Univ. Press, 1953.
- Komarovsky, M. Presidential Address: Some Problems in Role Analysis. American Sociological Review, 1973, December, 38 (6), 649-662.
- Korman, A.K. Toward a Hypothesis of Work Behavior. Journal of Applied Psychology, 1970, 54, 31-41.
- Korman, A.K. The Psychology of Motivation. Englewood Cliffs, New Jersey: Prentice-Hall, 1974.
- Kutner, N.G., and Brogan, D. Sources of Sex Discrimination in Educational Systems: A Conceptual Model. Psychology of Women Quarterly, 1976, 1 (1), 50-69.
- Latta, R.M. Hope of Success and Fear of Failure components of Mehrabian's Scales of Resultant Achievement Motivation. Journal of Research in Personality, 1978, 12, 141-151.
- Lawler, E.E. Job Attitudes and Employee Motivation: Theory, Research and Practice. Personnel Psychology, 1970, 23, 223-237.

- Lawler, E.E. and Hall, D.T. Relationship of Job Characteristics to Job Involvement, Satisfaction and Intrinsic Motivation. Journal of Applied Psychology, 1970, 54, 305-312.
- Lawrence, P., and Lorsch, J. Developing Organisations. Diagnosis and Action. Reading Massachusetts: Addison-Wesley, 1969.
- Lazarus, R.S. Psychological Stress and the Coping Process. New York: McGraw-Hill Book Co., 1966.
- Lecky, P. Self-Consistency: A Theory of Personality. New York: Island Press, 1945.
- Lehr, U. Die Frau im Beruf; ein Psychologische Analyse der Weiblichen Berufsrolle. Frankfurt am Main: Athenaum, 1969.
- Lehr, U., and Rudinger, G. Consistency and change of social participation in old age. Human Development, 1969, 12, 255-267.
- Lemkau, J.P. Personality and Background Characteristics of Women in Male-Dominated Occupations: A Review. Psychology of Women Quarterly, 1979, Winter, 4 (2), 221-391.
- Lenney, E. Women's Self-Confidence in Achievement Settings. Psychological Bulletin, 1977, 84, 1-13.
- Levinson, D.J. Growing up with the Dream. Psychology Today, 1978, January, 20-89.
- Levinson, D.J., Darrow, C.N., Klein, E.B., Levinson, M.H., and McKee, B. The Seasons of a Man's Life. New York: Alfred A. Knopf, 1978.
- Levitt, E.S. Vocational Development of Professional Women: A Review. Jnl of Vocational Behavior, 1971, 1, 375-385.
- Lewin, K. A dynamic theory of personality. Selected Papers. Translated by D.K. Adams and K.E. Zener, New York: McGraw-Hill, 1935.
- Lewin, K. The Psychology of Success and Failure. Occupations, 1936, 14, 926-930.

- Lewin, K. Behavior and development as function of the total situation. In L. Carmichael (Ed.), Manual of Child Psychology, New York: Wiley, 1954, 918-970.
- Lindsay, A.D. The Republic of Plato. Translated by A.D. Lindsay, London: J.M. Dent and Sons, Everyman's Library, 1945.
- Lipman-Blumen, J. How Ideology Shapes Women's lives. Scientific American, 1972, 226 (1), 34-42.
- Lipman-Blumen, J. Toward a Homosocial Theory of Sex Roles: An Explanation of the Sex Segregation of Social Institutions, Signs, 1976, 1 (3), 15-31.
- Lo Cascio, R. The Vocational Maturity of Diverse Groups: Theory and Measurement. In D.E. Super (ed.), Measuring Vocational Maturity for Counseling and Evaluation, Washington D.C.: National Vocational Guidance Association, 1974.
- Locksley, A., and Colten, M.E. Psychological Androgyny: A case of mistaken identity? Journal of Personality and Social Psychology, 1979, 37, 1017-1031.
- Lodahl, T.M., and Kejner, M. The Definition and Measurement of Job Involvement. Jnl. of Applied Psychology, 1965, 49, 24-33.
- Looft, W.R. Reflections on Intervention in Old Age: Motives, Goals and Assumptions. Gerontologist, 1973, 13, 6-10.
- Louis, M.R. How Individuals Conceptualise Conflict: Identification of Steps in the Process and the Role of Personal/ Developmental Factors. Human Relations, 1977, 30 (5), 451-467.
- Lowenthal, M.F. Psychosocial Variations Across the Adult Life Course: Frontiers for Research and Policy. The Gerontologist, 1975, 15, 6-12.
- Lowenthal, M.F. Toward a sociological theory of change in adulthood and old age. In J.E. Birren and K.W. Schaie (eds.), Handbook of the Psychology of Aging, New York: van Nostrand Reinhold Co., 1977, 116-127.

- Lowenthal, M.F., Thurnher, M., and Chiriboga, D. Four stages of Life: A Comparative study of women and men facing transitions. San Francisco: Jossey Bass, 1975.
- Maas, F. Die Persoonlikheidsteorie van Cattell. Pretoria: Suid-Afrikaanse Raad vir Geesteswetenskaplike Navorsing, Instituut vir Psigometriese Navorsing, 667/2, PP. 1975.
- Mann-Borgese, E. Ascent of Women. London: MacGibbon and Kee, 1963.
- McClelland, D.C. Toward a Theory of Motive Acquisition. American Psychologist, 1965, 20, 321-333.
- McClelland, D.C. Power: The inner experience. New York: Irvington, 1975.
- McClelland, D.C., Atkinson, J.R., Clark, R.A., and Lowell, E.L. The Achievement Motive. New York: Appleton-Century Crofts, 1953.
- Maccoby, E.E. Woman's Intellect. In S.M. Farber and R.H.L. Wilson, (eds.). The Potential of Woman, New York: McGraw Hill, 1963.
- Maccoby, E.E. Sex Differences in Intellectual Functioning. In E.E. Maccoby (ed.), The Development of Sex Differences, California: Stanford University Press, 1966.
- Maccoby, E.E., and Jacklin, C.N. What we know and what we don't know about sex differences. Myth, Reality and Shades of Grey. Psychology Today, 1974, 8 (7), 108-112.
- Maccoby, E.E., and Jacklin, C.N. The Psychology of Sex Differences. Stanford, Calif.: Stanford Univ. Press, 1975.
- Maccoby, E.E., and Jacklin, C.N. Sex Differences: Summary and Commentary. In S. Cox (ed.), Female Psychology: The emerging self. Chicago: Science Research Associates, 1976, 104-121.
- Magnusson, D. The Person and the Situation in an Interaction Model of Behavior. Scandinavian Jnl. of Psychology, 1976, 17, 253-271.

- Magnusson, D. On the Psychological Situation. Reports from the Department of Psychology, Stockholm: The University of Stockholm, No. 544, December, 1978.
- Magnusson, D., and Endler, N.S. (eds.) Personality at the Crossroads: Current Issues in Interactional Psychology. New York: John Wiley, 1977.
- Malherbe, E.G. Education in South Africa. Vol 11, Cape Town: Juta and Co. Ltd., 1977.
- Mandel, W. Soviet Women and their Self-Image. Science and Society, 1971, 35 (3), Fall. 286-310.
- Margolies, B.L., Kroes, W.H., and Quinn, B.P. Job Stress: An unlisted occupational hazard. Journal of Occupational Medicine, 1974, 16, 654-661.
- Marshall, S.J., and Wijting, J.P. Relationships of Achievement Motivation and Sex Role Identity to College Women's Career Orientation. Journal of Vocational Behavior, 1980, 16 (3), 299-311.
- Maslow, A.H. Dominance, Personality and Social Behavior in Women. The Journal of Social Psychology, 1939, 10, 3-39.
- Maslow, A.H. Motivation and Personality. New York: Harper and Row, 1954.
- Maurer, J.G. Work role involvement of Industrial Supervisors. East Lansing: MSU Business Studies, 1969.
- Mead, G.H. Mind, Self and Society. Chicago: University of Chicago Press, 1934.
- Mead, M. Culture and Commitment: A study of the generation gap. New York: Doubleday, 1964.
- Mead, M. Male and Female. A Study of the Sexes in a Changing World. London: Victor Gollancz, 1950.
- Mednick, M.T.S. Factors Influencing Role-Innovative Career Striving in Black and White College Women: The Effects of Expectancies, Causal Attribution, Sex Role Self Concept and Achievement Related Motives. Washington DC: Howard University, NITS, 31 October, 1979.

- Mednick, M.T.S., and Puryear, G. Motivational and Personality Factors Related to Career Goals of Black College Women. Jnl. of Social and Behavioral Sciences, 1975, 21, 1-30.
- Mednick, M.S., and Tangri, S.S. New Social Psychological Perspectives on Women. Jnl. of Social Issues, 1972, 28 (2), 1-16.
- Mednick, M.T.S., Tangri, S.S., and Hoffman, L.W. Women and Achievement: Social and Motivational Analyses. Washington: Hemisphere Publishing, 1975.
- Mehrabian, A. Male and Female Scales of the Tendency to Achieve. Educational and Psychological Measurement, 1968, 28, 493-502.
- Mehrabian, A. Measures of the Achieving Tendency. Educational and Psychological Measurement, 1969, 19, 445-551.
- Midgley, N., and Abrams, M.S. Fear of Success and Locus of Control in young women. Jnl. Consult. and Clin. Psychol., 1974, 42, 737.
- Miller, D. The Study of Social Relationships: Situation Identity and Social Interaction. In S. Koch (ed.), Psychology: A Study of Science, New York: McGraw-Hill, 1963, Vol V, 639-737.
- Miller, J., Schooler, C., Kohn, M.L., Miller, K.A. Women and Work: The Psychological Effects of Occupational Conditions. American Jnl. of Sociology, 1979, 85 (1), 66-94.
- Mischel, W. Personality and Assessment. New York: John Wiley, 1968.
- Mischel, W. Continuity and change in personality. American Psychologist, 1969, 24, 1012-1018
- Mischel, W. Toward a Cognitive Social Learning Reconceptualization of Personality. Psychological Review, 1973, 80 (4), 252-283.

- Mischel, W. The Interaction of Person and Situation. In D. Magnusson and N.S. Endler (Eds.), Personality at the Crossroads: Current Issues in Interactional Psychology, New York: John Wiley, 1977, 333-352.
- Mischel, W. A Social learning view of sex differences in Behavior. In E.E. Maccoby (ed.), The Development of sex differences, London: Tavistock, 1967, 56-81.
- Mischel, W., Ebbesen, E.B., and Zeis, A.R. Selective Attention to the Self: Situational and Dispositional Determinants. Jnl. of Personality and Social Psychology, 1973, 27, 1, 129-142.
- Monahan, L., Kuhn, D., and Shaver, P. Intrapsychic versus cultural explanations of the fear of success motive. Jnl. of Pers. and Soc. Psychology, 1974, 29, 60-64.
- Money, J., and Ehrhardt, A. Man and Woman, Boy and Girl. Baltimore: John Hopkins, 1972.
- Moreland, J.R., Gulanick, N., Montague, E.K., and Harren, V.A. Some Psychometric Properties of the Bem Sex Roles Inventory. Applied Psychological Measurement, 1978, 2 (2), 249-256.
- Moreland, J.R., Harren, V.A., Krinsky-Montague, E., and Tinsley, H.E.A. Sex Role Self-Concept and Career Decision Making. Jnl. of Counseling Psychology, 1979, 26 (4), 329-336.
- Morse, J.J. Person-job congruence and individual adjustment and development. Human Relations, 1975, 28, 841-861.
- Morse, J.J. Sense of competence and individual managerial performance. Psychological Reports, 1976, 38, 1195-1198.
- Mulvey, M.C. Psychological and Sociological Factors in Prediction of Career Patterns of Women. Genetic Psychology Monographs, 1963, 68, 309-386.
- Murphy, G. Personality. New York: Harper, 1947.

- Murray, H.A. Explorations in Personality: A Clinical and Experimental Study of Fifty Men of College age, by the Workers at the Harvard Psychological Clinic. New York: Oxford University Press, 1938.
- Mussen, P.H. Early Sex-Role Development. In D.A. Goslin (ed.), Handbook of Socialization Theory and Research, Chicago: Rand McNally, 1969.
- Mussen, P.H. (ed.). Carmichael's Manual of Child Psychology. (3rd ed.), New York: John Wiley, 1970.
- Mussen, P.H., Conger, J.J., and Kagan, J. Child Development and Personality. (4th Ed.) New York: Harper International Edition, 1974.
- Neugarten, B.L. (University of Chicago) Adult Personality: A Developmental View. Human Development, 1966, 9, 61-73.
- Neugarten, B.L. (ed.) Personality in Middle and Late Life. New York: Prentice Hall, Inc. Atherton Press, 1964.
- Neugarten, B.L. Continuities and Discontinuities of Psychological Issues into Adult Life. Human Development, 1969, 12, 121-130.
- Neugarten, B.L. Introduction to the Symposium: Models and Methods for the Study of the Life Cycle. Human Development, 1971, 14, 81-207.
- Neugarten, B.L. Personality and the Aging Processes. The Gerontologist, 1972, 12, 9-15.
- Neugarten, B.L., and Datan, N. Sociological Perspectives on the Life Cycle. In P.B. Baltes and K.W. Schaie (eds.), Life-Span Developmental Psychology: Personality and Socialization. New York: Academic Press, 1973, 53-69.
- Neugarten, B.L., Moore, J.W., and Lowe, J.C. Age norms, age constraints and adult socialisation. Am. J. Sociol., 1965, 70, 710-717.

- Neville, D., and Damico, S. Developmental Components of Role Conflict in Women. Jnl. of Psychology, 1977, 95 (2), 195-198.
- Norman, W.T. Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. Jnl. of Abnormal and Social Psychology, 1963, 66, 574-583.
- Nye, F.I., and Hoffman, L.W. The Employed Mother in America. Chicago: Rand McNally and Co., 1963.
- O'Leary, V.E. Some Attitudinal Barriers to Occupational Aspirations in Women. Psychological Bulletin, 1974, 81 (11), 809-826.
- Oppenheimer, V.K. The Sex Labeling of Jobs. Industrial Relations, 1968, 7, 219-234.
- Oppenheimer, V.K. Demographic Influence on Female Employment and the Status of Woman. American Jnl. of Sociology, 1973, 78, 184-199.
- Osborne, R.T., Noble, C.E., and Weyl, N. Human Variation. The Biopsychology of age, race and sex. New York: Academic Press, 1978.
- Osipow, S.H. Theories of Career Development. New York: Appleton-Century-Crofts, 1968.
- Otto, L.B., and Featherman, D.L. Social Structure and Psychological Antecedents of Self-estrangement and Powerlessness. American Sociological Review, 1975, 40, 701-719.
- Parelius, A.P. Emerging Sex Role Attitudes, Expectations and Strains Among College Women. Jnl. of Marriage and the Family, 1975, 37 (1), 146-153.
- Parlee, N.R. Biological Bases of Gender Identity: Their Implications for the Real World. Contemporary Psychology, 1976, 21 (5), 335-336.

- Parson, T., and Bales, R.F. Family, Socialization and Interaction Process. Glencoe, Illinois: The Free Press, 1955.
- Parsons, T. The Social System. London: Tavistock, 1952.
- Pearlin, L.I. Sex Roles and Depression. In N. Datan & L.H. Ginsberg (eds.), Life-Span Developmental Psychology. New York: Academic Press, 1975, 191-208.
- Pedhazur, E.J., and Tetenbaum, T.J. Bem Sex Role Inventory: A theoretical and methodological critique. Journal of Personality and Social Psychology, 1979, 37, 996-1016.
- Peplau, L.A. Impact of fear of success and sex-role attitudes on women's competitive achievement. Journal of Personality and Social Psychology, 1976, 34, 561-568.
- Pervin, L.A. Performance and Satisfaction as a Function of Individual-Environment Fit. Psychological Bulletin, 1968, 69, 56-68.
- Pervin, L.A. The Representative Design of Person-Situation Research. In D. Magnusson and N.S. Endler (Eds.), Personality at the Crossroads: Current Issues in Interactional Psychology, New York: John Wiley, 371-384, 1977.
- Phares, E.J., and Lamiell, J.T. Personality. Annual Review of Psychology, 1977, 28, 113-140.
- Pleck, J.H. Masculinity-Femininity. Current and alternative paradigms. Sex Roles, 1975, 1,(2), 161-178.
- Pleck, J.H. The male sex role: Definitions, problems and sources of change. Journal of Social Issues, 1976, 32,(3), 155-164.
- Prekel, T. Why a special look at women? South African Journal of Business Management. (In Press) 1980.
- Pressey, S.L., and Kuhlen, R.G. Psychological Development through the Life Span. New York: Harper and Brothers, 1957.

- Putnam, B.A., and Hanson, J.C. Relationship of Self-Concept and Feminine Role Concept to Vocational Maturity in Young Women. Jnl. of Counseling Psychology, 1972, 19 (5), 436-440.
- Rabban, M. Sex Role Identification in Young Children in Two Diverse Social Groups. Genetic Psychological Monograph, 1950, 42, 81-158.
- Rabinowitz, S., and Hall, D.T. Organisational Research on Job Involvement. Psychological Bulletin, 1977, 84 (2), 265-288.
- Radloff, L. Sex Differences in Depression. Sex Roles, 1975, 1, 249-265.
- Raubenheimer, L. Career Change: Considerations for Counselling. N.I.P.R. Johannesburg: C.S.I.R. Special Report Pers 301, 1979.
- Rausch, L. Paradox, Levels and Junctures in Person-Situation Systems. In D. Magnusson and N.S. Endler (Eds.), Personality at the Crossroads: Current Issues in Interactional Psychology. New York: John Wiley, 1977, 287-304.
- Raynor, J.O. Motivation and Career Striving. In J.W. Atkinson and J.O. Raynor (Eds.), Personality, Motivation and Achievement. New York: John Wiley and Sons, 1978, 199-219.
- Rebecca, M., Hefner, R., and Oleshansky, B. A model of sex-role transcendence. Journal of Social Issues, 1976, 32, (3) 197-206.
- Redfering, D.L. Relationship between attitudes toward feminism and levels of dogmatism, achievement and anxiety. The Journal of Psychology, 1979, 101, 297-304.
- Republic of South Africa Bureau of Statistics. Labour Statistics. Pretoria: Government Printer, 1976.
- Republic of South Africa. Department of Manpower Utilization, Manpower Survey, No 13, 27 April, 1979, All Industries and Occupations.

- Richardson, M.S. The Dimensions of Career and Work Orientation in College Women. Jnl. of Vocational Behavior, 1974, 5, 161-172.
- Richardson, M.S. Self Concepts and Role Concepts in the Career Orientation of College Women. Jnl. of Counseling Psychology, 1975, 22, 122-126.
- Riegel, K.F. Adult Life Crises: A Dialectic Interpretation of Development. In N. Datan and L.H. Ginsberg (eds.), Life-Span Developmental Psychology. New York: Academic Press, 1975, 99-128.
- Riley, M.W. Age Strata in Social Systems. In R.H. Binstock and E. Shanas (Eds.), Aging and the Social Sciences, New York: v. Nostrand Reinhold, 1976, 189-217.
- Roe, A. The Psychology of Occupations. New York: Wiley, 1956.
- Rosen, B.C., and Aneshensel, C.S. Sex Differences in the Educational-Occupational Expectation Process. Social Forces, 1978, 57, (1), September, 164-186.
- Rosenkrantz, P., Vogel, S., Bee, H., Broverman, I., and Broverman, D.M. Sex role stereotypes and self-concepts in college students. Jnl. of Consulting and Clinical Psychology, 1968, 32 (3), 287-295.
- Rosow, I. Socialization to Old Age. Berkeley: University of California Press, 1974.
- Rosow, I. Status and Role Change through the Life-Span. In R.H. Binstock and E. Shanas (eds.), Handbook of Aging and the Social Sciences, New York: Nostrand Reinhold Co., 1976, 457-482.
- Rossi, A.S. Barriers to the Career Choice of Engineering, Medicine, or Science Among American Women. In J.A. Mattfeld and C.G. Aken (eds.), Women and the Scientific Professions, Cambridge, Mass.: M.I.T. Press, 1965, 51-127.
- Rossi, A.S. Life-span Theories and Womens Lives. Signs, 1980, 6, (1), 4-32.

- Rotter, J.B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80, (1) (Whole number 609).
- Russo, N.F. Overview: Sex Roles, Fertility and the Motherhood Mandate. Psychology of Women Quarterly, 1979, 4 (1), 5-15.
- Sadie, J.L. Projections of the South African Population: 1970-1984. Pretoria: Centre for Management Studies, S.B.L., UNISA, 1980.
- Safilios-Rothschild, C. The study of Family Power Structure: A Review 1960-1969. Jnl. of Marriage and the Family, 1970, 32 (4), 539-574.
- Sanger, S.P., and Alker, H.A. Dimensions of Internal-External Locus of Control and the women's Liberation Movement. The Jnl. of Social Issues, 1972, 28 (4), 115-129.
- Sarbin, T.R., and Allen, V.L. Role Theory. In G. Lindzey and E. Aronson (eds.), The Handbook of Social Psychology, Vol. 1, Reading, Massachusetts: Addison-Wesley Publishing Co., 1968, 448-567.
- Schachter, S. Deviation, rejection and communication. Journal of Abnormal and Social Psychology, 1951, 46, 190-207.
- Schein, E. Organisational Psychology. Englewood Cliffs, N.J.: Prentice-Hall, 1965.
- Schein, V.E. Think Manager - Think Male. Atlanta Economic Review, 1976, March-April, 21-24.
- Schein, V.E. Power and Political Behaviors in Organizations: A New Frontier for Research on Male/Female Differences. NATO Symposium on Women and Work, Portugal, August, 1980.
- Schwartz, E.B. Entrepreneurship: A New Female Frontier. Jnl. of Contemporary Business, 1976, 5 (1), 47-76.
- Seligman, M.E.P. Submissive death: Giving up on life. Psychology Today, 1974, 7, 80-85.
- Selman, R. The relation of role taking to the development of moral judgements in children. Child Development, 1971, 42, 79-91.

- Shafer, S.M. Factors Affecting the Utilization of Women in Professional and Managerial Roles. Comparative Education, 1974, 10, (1), 1-11.
- Shaffer, D.R., and Wegley, C. Success orientation and sex-role congruence as determinants of the attractiveness of competent women. Journal of Personality, 1974, 42, 586-600.
- Sheehy, G. Passages, Predictable Crises of Adult Life, New York: Bantam, 1977.
- Sherman, J.A. Social Values, Femininity and the Development of Female Competence. Journal of Social Issues, 1976, 32, (3), 181-196.
- Shields, S.A. Functionalism, Darwinism and the psychology of women. A study in Social Myth. American Psychologist, July 1975, 739-754.
- Sherfey, M.J. On the Nature and Evolution of Female Sexuality. In J.B. Miller (ed.), Psycho-Analysis and Women, Baltimore: Penguin Books, 1973, 135-153.
- Sherif, M., and Sherif, C. An Outline of Social Psychology (Revised ed.). New York: Harper and Brothers, 1956.
- Smit, T. Utilizing the Other Half: World Trends in the Employment of Women. Business Management, 1978, 9, 11-19.
- Spence, J.T., Helmreich, R.L., and Stapp, J. Ratings of Self and peers on sex role attributes and their relation to self-esteem and conceptions of masculinity and femininity. Journal of Personality and Social Psychology, 1975, 32, 29-39.
- Spence, J.T., and Helmreich, R.L. Masculinity and Femininity: Their Psychological Dimensions, Correlates and Antecedents. Austin, Texas: University of Texas Press, 1978.
- Spence, J.T., and Helmreich, R.L. The Many Faces of Androgyny: A Reply to Locksley and Colten. Jnl. of Personality and Social Psychology, 1979, 37, (6), 1032-1046.

- Spitze, G.D., and Waite, L.J. Young Women's Early Labor Force Experiences and Work Attitudes. Determinants and Consequences of Young Women's Attitudes Toward Work. Prepared for Employment and Training Administration, Washington, DC: April, NTIS PB-295 388, 1979.
- Stake, J.E. The Ability/Performance Dimension of Self-esteem: Implications for Women's Achievement Behavior. Psychology of Women Quarterly, 1979, 3, (4), 365-377.
- Stein, A.H. The effects of sex role standards for achievement and sex role preference on the determinants of achievement motivation. Developmental Psychology, 1971, 4, 219-231.
- Stein, A.H., and Bailey, M.M. The Socialization of Achievement Orientation in Females. Psychological Bulletin, 1973, 80 (5), 345-366.
- Stewart, A.J. A Longitudinal Study of Coping Styles in Self-Defining and Socially Defined Women. Journal of Consulting and Clinical Psychology, 1978, 46, (5), 1079-1084.
- Stewart, A.J., and Winter, D.G. Self-definition and social definition in women, Journal of Personality, 1974, 42, (2), 238-259.
- Steyn, A.F., and Breedts, A. Die Veranderende Gesin. Pretoria: Academica, 1977.
- Stoller, R.J. The Sense of Femaleness. Psychoanalytic Quarterly, 1968, 37, 42-55.
- Stoller, R.J. The Bedrock of Masculinity and Femininity: Bisexuality. Archives of General Psychiatry, 1972, 26, 207-212.
- Storms, M.D. Sex Role Identity and its Relationship to Sex Role Attributes and Sex Role Stereotypes. Journal of Personality and Social Psychology, 1979, 37, (10), 1779-1789.
- Sullerot, E. Women, Society and Change. London: World University Library, 1971.

- Super, D.E. The Psychology of Careers: An Introduction to Vocational Development. New York: Harper, 1957.
- Super, D.E. (ed.). Measuring Vocational Maturity for Counseling and Evaluation. Washington DC: National Vocational Guidance Association, 1974.
- Super, D.E., and Super, C.M. Opportunities in Psychology Careers Today. Vocational Guidance Manuals, Louisville, Kentucky: VGM Inc., 1976.
- Tangri, S. Determinants of Occupational Role Innovation Among College Women. Jnl. of Social Issues, 1972, 28, (2), 177-199.
- Tavris, C. Who Likes Women's Liberation and Why? Jnl. of Social Issues, 1973, 29 (4), 175-198.
- Terblanche, S.S. Women in the Labour Force. Pretoria: South African Human Sciences Research Council, (No PR-1), 1978.
- Terborg, J.R. Women in Management: A Research Review. Journal of Applied Psychology, 1977, 62, (6), 647-664.
- Terman, L.M., and Miles, C.C. Sex and Personality: studies in masculinity and femininity. New York: MacGraw-Hill, 1936.
- Tharenou, P. Employee Self-Esteem: A Review of the Literature. Jnl. of Vocational Behavior, 1979, 15, 316-346.
- Theodore, A. The Professional Woman. Cambridge, Massachusetts: Schenkman Publication Co., 1971.
- Thomae, H. Das Individuum und Seine Welt. Eine Persönlichkeits-theorie. Göttingen: Verlag für Psychologie, 1968.
- Thomae, H. The Concept of Development and Life-Span Developmental Psychology. In P.B. Baltes and O.G. Brim (eds.), Life-Span Development and Behavior, 1979, 2, 282-312.
- Thomas, A., and Chess, S. The dynamics of psychological development. New York: Brunner-Mazel, 1980.

- Tresemmer, D.E. Assumptions about Gender Role. In N. Glazer and H.Y. Waehrer (eds.), Women in a man-made world, Chicago: Rand McNally, 1977, 114-127.
- Tiedeman, D.V., O'Hara, R.P., and Baruch, R.W. Career Development: Choice and Adjustment. Princeton NJ: College Entrance Examination Board, 1963.
- Torrey, J.W. A Psychologist's Look at Women. Jnl. of Contemporary Business, Summer, Univ. of Washington, 1973, 2, (3), 25-40.
- Trotman, S.C.A., and Hammond, G.R. Sex Differences in Task-Dependent EEG Asymmetries. Psychophysiology, 1979, 16, (5), 429-431.
- Urberg, K.A. and Labouvie-Vief, G. Conceptualisations of Sex Roles: A Life Span Developmental Study. Developmental Psychology, 1976, 12, (1), 15-23.
- Van der Merwe, S. Womanpower in South Africa: Proposing a Business Strategy. Business Management, 1978, 9 (3), 20.
- Van der Merwe, S. A Portrait of the South African Manager. South African Jnl. of Business Management, 1979, 10, 57-63.
- Van der Walt, J.S. 'n Onderzoek na die Benutting van Vroue-Arbeid: Die Huidige Situatie en Menings van Werkgewers in die Bedryf. M.C. Verhandeling; Bloemfontein: U.O.V.S., 1976.
- Van Rooyen, J. Job Evaluation Manual. N.I.P.R. Q-Method. (1st ed). Johannesburg: National Institute for Personnel Research, C.S.I.R., 1977.
- Van Rooyen, J. Women at Work: A conceptualisation of factors affecting female career commitment. Special Report, PERS 311, Johannesburg: National Institute for Personnel Research, C.S.I.R., 1980.
- Vermaak, J.A. Die Vraag en Aanbod van Mannekrag in die RSA. Pretoria: Instituut vir Mannekragnavorsing, SA RGN, (No MM-56), 1975.

- Verof, J., Feld, S., and Gurin, G. Dimensions of subjective adjustment. Jnl. Abnorm. Soc. Psychol., 1962, 64, 192-205.
- Verof, J., Wilcox, S., and Atkinson, J.W. The achievement motive in high school and college age women. Journal of Abnormal and Social Psychology, 1953, 48, 108-119.
- Vogel, S.R., Rosenkrantz, P.S., Broverman, D.M., and Clarkson, F.E. Sex-role Self-concepts and life style plans of young women. Journal of Counseling and Clinical Psychology, 1975, 43, 427-436.
- Vroom, V.H. Work and Motivation. New York: Wiley & Sons, 1964.
- Vroom, V.H. Industrial Social Psychology. In G. Lindzey and E. Aronson (Eds.), The Handbook of Social Psychology, Vol. V, Reading, Mass.: Addison-Wesley, 1969, 196-268.
- Wachtel, P.L. Interaction Cycles, Unconscious Processes and the Person-Situation Issue. In D. Magnusson and N.S. Endler (eds.), Personality at the Crossroads: Current Issues in Interactional Psychology. New York: John Wiley, 1977, 317-331.
- Waite, L.J. Determinants and Consequences of Young Women's Attitudes Toward Work. Washington DC: Employment and Training Administration, NTIS, 1979.
- Waite, L.J., and Spitze, G.D. Determinants and Consequences of Young Women's Attitudes towards Work. Washington DC: US Dept. of Commerce, NTIS, PB-295 388, 1979.
- Waite, L.J., and Stolzenberg, R.M. Intended Childbearing and Labor Force Participation of Young Women: Insights from Nonrecursive Models. American Sociological Review, 1976, 41, April, 235-252.
- Walkup, H., and Abbott, R.D. Cross-validation of Item Selection on the Bem Sex Role Inventory. Applied Psychological Measurement, 1978, 2, (1), 63-71.

- Wanous, J.P. Individual differences and reactions to job characteristics. Jnl. of Applied Psychology, 1974, 59, 616-622.
- Waters, C.W, Waters, L.K., and Pincus, S. Factor analysis of masculine and feminine sex-typed items from the Bem Sex Role Inventory. Psychological Reports, 1977, 40, 567-570.
- Websters New Twentieth Century Dictionary of the English Language. Unabridged Second Edition. New York: World Publishing Co., 1974.
- Wessels, D.M. The Employment Potential of Graduate Housewives in the PWV-region. Part II: The Careers of Graduate Housewives. Pretoria: Human Sciences Research Council (MM-47), 1974.
- Wessels, D.M. Achievement Motivation and Occupational Aspirations of Women. Pretoria: South African Human Sciences Research Council, Paper presented at the International Convention of Women, Grahamstown, 1-5 December, 1975.
- Wessels, D.M. Vroue in Bedryfswerk. Pretoria: Instituut vir Mannekragnavorsing, (Nr MM-66), 1977.
- White, M.S. Measuring Androgyny in Adulthood. Psychology of Women Quarterly, 1979, 3, (3), 293-307.
- Wiggins, J.S. Personality and Prediction: Principles of Personality Assessment, Reading Mass: Addison-Wesley Publ., 1973.
- Wirtenberg, T.J., and Nakamura, C.Y. Education: Barrier or Boon to changing occupational Roles of Women? Journal of Social Issues, 1976, 32, (3), 165-180.
- Wohlwill, J.F. Methodology and Research Strategy in the Study of Developmental Change. In L.R. Goulet and P.B. Baltes (eds.) Life-Span Developmental Psychology, New York: Academic Press, 1970, 150-190
- Wylie, R.C. The Self-Concept. Lincoln: University of Nebraska Press, 1961.

- Yorburg, B. Sexual Identity: Sex Roles and Social Change. New York: John Wiley, 1974.
- Zander, A., and Quinn, R. The Social Environment and Mental Health: A review of past research at the Institute of Social Research. J. Soc. Issues, 1962, 18, 48-66.
- Zastrow, C., and Chang, D.H. The Personal Problem Solver. New Jersey: Prentice Hall, 1977.

ADDENDUM 1C.S.I.R. JOB RANKS (SELECTED CATEGORIES)

AT = Assistant Technician
ATO = Assistant Technical Officer
TO = Technical Officer
STO = Senior Technical Officer
CTO = Chief Technical Officer
ARO = Assistant Research Officer
RO = Research Officer
SRO = Senior Research Officer
CRO = Chief Research Officer
SCRO = Senior Chief Research Officer
Clerk = Clerk (Administrative)
AO = Administrative Officer
SAO = Senior Administrative Officer

COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

FEMALE CAREER COMMITMENT QUESTIONNAIRE

N I P R

APRIL 1979

INTRODUCTION

This questionnaire has been compiled to obtain information on work and career commitment as found amongst graduated White female employees of the CSIR.

There are no right or wrong answers to any of the questions. You are requested to complete the questionnaire personally and without assistance from anyone else.

Please ensure that you have answered all the questions.

ALL INFORMATION SUPPLIED WILL BE TREATED CONFIDENTIALLY AND WILL ONLY BE USED FOR RESEARCH PURPOSES. IT WILL IN NO WAY AFFECT YOUR STATUS OR POSITION.

Your co-operation in this study is appreciated.

Thank you.

A. GENERAL

NAME:

NATIONALITY:

HOME LANGUAGE:

DATE OF BIRTH:

MARITAL STATUS: ☐ SINGLE ☐ MARRIED ☐ DIVORCED ☐ WIDOW

If married: Husbands work:

Religious Affiliation:

Age when joining CSIR:

Length of Service with CSIR:

Highest Qualification when joining CSIR:

Qualifications obtained while working at CSIR:

Institute:

Section:

Present Rank:

Hours of Employment: ☐ Part time ☐ Full time

Children: Please complete the following table according to age of children and as applicable.

Sex	Age	If pre-school where does child stay during day	Educational Standard	Present Occupation	Marital Status	Does child reside with you?

Where do you live?

In a house	
In a Flat	
In a Hotel	
With Parents	
Other (Specify)	

B. OCCUPATIONAL INFORMATION

Please list, chronologically, the different jobs you have held during your working life. Also indicate the length of service in every job.

JOB TITLE	FIRM	LENGTH OF SERVICE

If you had a choice to work or not to work, what would you do?

☐ Work ☐ Not work

Which of the following situations would be the ideal as far as you are concerned?:

- (a) To work part-time and spend more time at home ☐
- (b) To work and spend more time on voluntary services ☐
- (c) To work and spend more time on outdoor activities ☐
- (d) To stay at home and study ☐
- (e) To stay at home and do voluntary services ☐
- (f) To stay at home and care for your husband and children ☐
- (g) To continue your present life-style ☐
- (h) Any other: Please specify ☐

.....

Would you continue to work irrespective of a/ your husbands wishes

Yes	No	Uncertain
-----	----	-----------

Does your husband like the idea of your working?

Yes	No	N/A
-----	----	-----

Would he assist you in furthering you own career?

Yes	No	N/A
-----	----	-----

If you could see 5 years into the future which of the following statements would you hope were to be applicable to yourself?

- | | |
|--|--------------------------|
| 1. Being a good wife and mother | ☐ |
| 2. Serving my community by voluntary work | ☐ |
| 3. Combining work and marriage | ☐ |
| 4. Achieving higher degrees or obtaining broader education | ☐ |
| 5. Achieving a position of status in my field | ☐ |
| 6. Not really interested in planning about the future | ☐ |

Does your present job satisfy your need for realizing your potential?

- | | |
|------------------------|--------------------------|
| 1. Very definitely | ☐ |
| 2. To a certain extent | ☐ |
| 3. Uncertain | ☐ |
| 4. Not really | ☐ |
| 5. Definitely not | ☐ |

Does the present income-tax structure affect your motivation to work?

- | | |
|------------------------|--------------------------|
| 1. Very definitely | ☐ |
| 2. To a certain extent | ☐ |
| 3. Uncertain | ☐ |
| 4. Not really | ☐ |
| 5. Definitely not | ☐ |

If you were to start your life anew would you choose your present course of study again, everything else being the same?

- (a) Definitely would choose the same
- (b) Would not mind choosing the same
- (c) Uncertain
- (d) Don't think I'd choose the same
- (e) Definitely would not choose the same

☐
☐
☐
☐
☐

If you were to start working again would you choose your present career, everything else being the same?

- (a) Definitely would choose the same
- (b) Would not mind choosing the same
- (c) Uncertain
- (d) Don't think I'd choose the same
- (e) Definitely would not choose the same

☐
☐
☐
☐
☐

If you were to have a choice between marriage, (being a housewife) and having a career, would you:

- (a) Choose marriage only
- (b) Choose a career only
- (c) Choose to combine the two situations
- (d) Uncertain

☐
☐
☐
☐

If you were to have a choice between being married and assisting your husband to further his career, or following your own career, would you:

- (a) Prefer to assist your husband
- (b) Prefer to follow own career
- (c) Prefer to be uninvolved in both cases
- (d) Uncertain

☐
☐
☐
☐

(10) No initial work experience. Married plus homemaking and only at later stage first work experience coupled with homemaking.

☐

(11) Work, married, resigned to work for spouse or family either directly or after period of time

☐

(12) Merely works because been asked to help out

☐

ADDENDUM 3

CSIR

1979

FEMALE STUDY

INTERVIEW SCHEDULE

1. Are you married?

Yes	No	Divorced	Widow
-----	----	----------	-------
2. How old were you at marriage?

N/A

3. Did you study after your marriage?

Yes	No	N/A
-----	----	-----
4. Did you then have children?

Yes	No	N/A
-----	----	-----
5. Why did you start working after marriage?
.....
.....
6. Any reasons why you continue to work?
.....
.....
7. What is the nature of your work?
.....
.....
8. Do you enjoy your work?

Yes	No
-----	----

Reasons
.....
9. Do you/Did you expect to have a work career?

Yes	No
-----	----

Explain
.....
10. Does marriage affect your work commitment? (Would it affect it?)
Explain
.....

11. Do you have specific future ideals?

12. What future do you see in your work?

13. Do you have any hobbies?

14. What would you most like to do?

15. How do you experience your own identity?

16. Are there differences between your ideals while at school,
 at university, as just married, now?

17. When did these changes take place?

18. What would you see as success?

- | | |
|--------------------------|--|
| ☐ | To be recognised by colleagues as authority. |
| ☐ | To earn enough money. |
| ☐ | To achieve a position of responsibility. |
| ☐ | To be well liked by people. |
| ☐ | To be of service. |

19. General

NORMS FOR THE 16 PF, FORM A

WHITE, GRADUATED WORKING WOMEN

(CSIR: Average age - 33 yrs)

(N = 111)

Stens	Raw scores																Stens
	A	B	C	E	F	G	H	I	L	M	N	O	Q ₁	Q ₂	Q ₃	Q ₄	
1	0-3	0-6	0-10	0-5	0-2	0-4	0-4	0-2	0-2	0-7	0-6	0-3	0-5	0-6	0-5	0-2	1
2	4-5	7	11	6-7	3-6	5-7	5	3-5	3-4	8	7	4-5	6	7-8	6	3-5	2
3	6	8	12-13	8-9	7-8	8-10	6-8	6-7	5	9-10	8	6	7-9	9	7-8	6-7	3
4	7-8	9	14-15	10-11	9	11-12	9-10	8-9	6-7	11-12	9-10	7	10	10-11	9	8-9	4
5	9-10	10	16-17	12-14	10-12	13-14	11-14	10	8	13-14	11	8-9	11-12	12-13	10-11	10-11	5
6	11	11	18-19	15-16	13-14	15	15-17	11-12	9-10	15-16	12-13	10-11	13	14-16	12-13	12-14	6
7	12-13	-	20-21	17-18	15-16	16-17	18-19	13-14	11	17	14	12-13	14	17	14	15-16	7
8	14-16	12	22-23	19-21	17-20	18	20-21	15-16	12-13	18-19	15	14-15	15-16	18	15	17-19	8
9	17	-	24	22	21	19	22-23	17	14	20-21	16-17	16-17	17-18	19-20	16-17	20-22	9
10	18-20	13	25-26	23-26	22-26	20	24-26	18-20	15-20	22-26	18-20	18-26	19-20	-	18-20	23-26	10
$\bar{X}$	9,70	9,55	16,62	13,50	11,70	13,04	13,32	10,13	8,21	13,55	11,24	9,12	11,38	13,15	10,85	11,33	
s	3,55	1,58	3,67	4,57	4,52	3,67	5,24	3,56	2,89	3,40	2,68	3,32	2,99	3,53	3,01	4,57	

ADDENDUM 4

PHI EVALUATION SCALES

(N.I.P.D. Q METHOD)

	1	2	3	4	5
<u>NATURE OF WORK</u>	Semi/or non repetitive due to changing demands. Specific area of knowledge.	Awareness of interrelationship implications. Involves broad but specific field of knowledge.	Requires planning, organising, adaptation of own/or others work and functioning.	Development, planning and organising of work (varied inputs)	Directing, advising, multiple fields.
<u>DECISIONS</u>	Indirect, requires initiative and interpretation of interrelated cues.	Requires analysis and interpretation to determine implications.	Dissimilar, multiple, varied developmental.	Diagnostic, theoretical, varied.	Co-ordinating, integrating, developing new philosophy - own and related fields.
<u>BACKGROUND KNOWLEDGE</u>	Analytic skills based on background knowledge. Theory/Practical.	Must be able to identify and interpret multiple facts (specific to own field) and related to other fields.	Depth knowledge of own field, integrated with knowledge of varied fields.	Must identify potential problems. Determine implications (own and related fields.)	Balance between known and new concepts. Creating new environment, new direction for development.
<u>RESOURCES</u>	Works on own initiative with limited authority. Guidance available.	Own judgement. Precedent guides and advice is available.	Individual judgement. Precedent not always available. Discussions possible - final decision ultimately own responsibility.	Own initiative and judgement. Precedent not always available.	Responsible for innovation. Can consult, but as authority personally responsible for action and eventual results.
<u>RESTRAINTS</u>	Prescribed approach but may adapt with changing circumstances (within limits)	Independent assembling and arranging of information. Works within limits of job outline and responsibility.	Frame of reference not always clear. Information not necessarily available or organised.	Could cause precedent. Works under pressure. Ad hoc decisions when required (on own responsibility.)	Authority - guided by broad policy and knowledge of implications of actions.
<u>CONTROL</u>	Controls own work and progress. Reports on progress.	Indirect. Internal and external contacts and discussions.	Completion of work (own and others) personal responsibility.	Development of field and direction of development serves as control.	Determining of and integrating various objectives - achieving results (workers represent broad spectrum of knowledge.)

APPENDIX 5

ADDENDUM 6

CASE STUDIES

Information supplied for each subject is as follows:

1. Age
2. Marital status
3. Children
4. Qualifications
5. Sex role identity
6. Achievement need
7. Independence
8. Anxiety
9. Career expectation
10. Choice of life style
11. Job complexity level
12. Job satisfaction
13. Work interest (husband's influence)

SUBJECT 5

1. 22
2. Married
3. None
4. B.Sc
5. Feminine
6. Low N/Ach
7. Dependent
8. Adjusted
9. Uncertain
10. Status quo
11. Level two
12. Good (4)
13. Stop

Summary:

Working while husband completes military service. Enjoys work as change from study routine. Anticipates working for a further 2-3 years and then starting a family. May eventually combine work and home roles but home and husband's career has priority. Enjoys earning her own money.

SUBJECT 8

1. 22
2. Unmarried
3. None
4. B.Sc Hons
5. Feminine
6. Low N/Ach
7. Independent
8. Low anxiety
9. No
10. Marriage
11. Level one
12. Some (2)
13. Stop

Summary:

Engaged to professionally qualified male completing military service. Work expectation less than 2 years. Anticipates further study but not in direction qualified. Would prefer fine arts, interior decorating. Marriage final objective and future totally directed in terms of husband's wishes.

SUBJECT 13

1. 23
2. Married
3. None
4. B.Sc (HED)
5. Androgynous
6. N/AvF
7. Independent
8. Adjusted
9. Uncertain
10. Start a family
11. Level two
12. Average (3)
13. Stop

Summary:

Married and happy to be 23 years old. Enjoys work, work surroundings and superior's attitude. No work pressures. Job gives social and intellectual stimulation but at end of the day she goes home to be "my husband's wife". No future work perspectives.

SUBJECT 14

1. 24
2. Unmarried
3. None
4. B.Sc Hons
5. Masculine
6. N/Ach
7. Independent
8. Adjusted
9. Uncertain
10. Marriage
11. Level two
12. Some (2)
13. Continue

Summary:

Unmarried status acceptable because one must first enjoy your youth before accepting responsibilities of marriage and motherhood. Wants to go on overseas tour and work assists in meeting the financial implications. A work future is more acceptable to a man. A woman's future includes marriage and children.

SUBJECT 15

1. 24
2. Unmarried
3. None
4. B.Sc Hons
5. Feminine
6. N/AvF
7. Dependent
8. Anxious
9. Uncertain
10. Travel/Self
11. Level four
12. Average (3)
13. Stop

Summary:

Unmarried, and lonely person who sees future as including husband and children. At present no potential marriage partner and no personal inclination to continue to study. Would like to take extended (6 months) overseas tour and then study for education diploma or change to para-medical work. These directions may be interesting.

SUBJECT 17

1. 24
2. Unmarried
3. None
4. B.A.
5. Undifferentiated
6. Low N/Ach
7. Dependent
8. Anxious
9. No
10. Marriage
11. Level three
12. Average (3)
13. Stop

Summary:

Primary objective in life is to get married and to become a housewife. There is always enough to do in and around a house to occupy a wife's day. If circumstances required it she would combine work and home duties but she feels this would negatively affect a woman's primary responsibility, namely house and family roles.

SUBJECT 23

1. 25
2. Unmarried
3. None
4. B.Sc
5. Feminine
6. Low N/AvF
7. Low independent
8. Low anxious
9. No
10. Marriage
11. Level one
12. Some (2)
13. Stop

Summary:

Would like to get married, to stay at home and do all the things she has always wanted to do (gardening, needle-work). No potential marriage partner and present work not stimulating. Is analysing possibility of other work which would offer greater challenge and/or starting studies again to obtain better bargaining qualifications.

SUBJECT 26

1. 25
2. Married
3. None
4. B.Sc Hons
5. Undifferentiated
6. High N/AvF
7. Independent
8. Low adjusted
9. Uncertain
10. Travel/Self
11. Level two
12. Some (2)
13. Stop

Summary:

Married and very involved with wishes, demands and needs of husband. Subject feels that professional qualifications of husband ensure continued employment, albeit in different countries and she will gladly accompany him. Although enjoying the stimulus of her own work she accepts her responsibilities as wife as primary. She hopes however that his work environment will also offer work opportunities for her.

SUBJECT 35

1. 26
2. Married
3. None
4. B.Sc Hons
5. Feminine
6. High N/Ach
7. Low independent
8. Anxious
9. No
10. Start a family
11. Level four
12. Average (3)
13. Stop

Subject:

Enjoys being married and enjoys work demands. Experiences difficulties in meeting increasing work demands (job level four) and home and social responsibilities. Would like to continue with work, although increasing lack of work structure causes anxiety; but would also like to start a family. Cannot see how she could cope with work and home demands. Home/family role would get priority.

SUBJECT 36

1. 26
2. Unmarried
3. None
4. B.Sc Hons
5. Masculine
6. High N/AvF
7. Independent
8. Anxious
9. Yes
10. Study (new field)
11. Level two
12. Some (2)
13. Uncertain

Subject:

Unmarried, worried about life in general. Realises that she is well-qualified and has a good job with good future prospects but feels undecided whether she wants to continue with career choice. Has already decided to change life-style and to start studying in a new career direction. Feels her study overseas assisted her in clarifying her thoughts on the need to start a new future. Would like to get married but does not see this as possibility in the near future.

SUBJECT 39

1. 27
2. Married
3. One
4. B.Sc
5. Androgynous
6. Low N/Ach
7. Low independent
8. Anxious
9. Uncertain
10. Family responsibilities
11. Level three
12. Average (3)
13. Stop

Summary:

Pregnant with a second child, and, due to the transfer of her husband, the subject has no alternative choice but to terminate her job. She enjoys her work, has been able to cope with work and family/home demands and would have liked to have continued her work - even to have developed a career. Anticipates future work involvement. States, "When you are at home you miss your work and when you are at work you think of all the things to do at home".

SUBJECT 45

1. 27
2. Unmarried
3. None
4. B.Comm
5. Masculine
6. Low N/AvF
7. Independent
8. Anxious
9. Uncertain
10. Work/marriage
11. Level four
12. Good (4)
13. Stop

Summary:

Unmarried person who, although wanting to get married, realises that she must accept personal responsibility to make her life worthwhile. Decided that a work role would be an important future perspective and therefore applied for a job at the CSIR. This gives opportunity for further qualifications and expert job experience. Very happy in work (level four demands) and in her new life perspectives.

SUBJECT 47

1. 28
2. Unmarried
3. None
4. B.A. Hons
5. Feminine
6. Low N/AvF
7. Dependent
8. Adjusted
9. Uncertain
10. Self/marriage
11. Level four
12. Average (3)
13. Uncertain

Summary:

Unmarried person who wants to enjoy life. This could include marriage but social involvement generally is primary objective. Enjoys her work, but work value relates more to the financial independence than to intrinsic work value or to personal development. When questioned on possible work future, two alternatives are given, namely extended overseas tour, or total change in career (also including change in academic discipline).

SUBJECT 55

1. 30
2. Married
3. None
4. M.Sc
5. Feminine
6. High N/AvF
7. Independent
8. Anxious
9. Uncertain
10. Self/family
11. Level two
12. Some (2)
13. Stop

Summary:

Married. Husband professionally qualified, studying full-time for second professional qualification. Subject feels unhappy with life; worried that she may become too old to have children. Enjoys work, although if she had to make career choice now she would follow totally different direction. States that she would like to have an own identity now - she wants to be a mother - she does not want to be a worker or her husband's wife.

SUBJECT 60

1. 31
2. Unmarried
3. None
4. M.Sc
5. Androgynous
6. N/Ach
7. Independent
8. Anxious
9. Uncertain
10. Marriage/travel
11. Level five
12. Some (2)
13. Uncertain

Summary:

Unmarried. Would prefer to get married and blames present state on self and environment. Obtained all degrees with distinction. This involved total identification with study and little social life. Application of theoretical knowledge in work situation resulted in disillusionment and questioning of correctness of studying so hard. Works in isolation with little interpersonal contact and little intellectual challenge. Thinks of doing a Doctoral degree, but also questions the implications of further academic achievements on meeting a potential marriage partner and/or experiencing increased job satisfaction. Realises the need to clarify a personal future and the work direction required.

SUBJECT 62

1. 32
2. Married
3. One
4. M.A.
5. Undifferentiated
6. Low N/Ach
7. Low dependent
8. Low anxious
9. Yes
10. Work/self
11. Level four
12. Good (4)
13. Continue

Summary:

Married with one child. Grew up in environment where value was attached to a woman being an individual in her own right. Enjoys her work, values her financial independence but experiences conflict in trying to meet all role demands. Questions whether it is normal to experience conflict in trying to meet wife, mother, work, self-role demands. Role models seem to be able to cope, why can't she. Proposed the need to deal with home demands as priority and personal and work demands secondarily.

SUBJECT 73

1. 35
2. Unmarried
3. None
4. B.Sc Hons (HED)
5. Feminine
6. N/AvF
7. Dependent
8. Adjusted
9. Yes
10. Self/travel
11. Level five
12. Good (4)
13. Continue

Summary:

Unmarried. Has resolved conflict of single status/marriage. Angry feelings aroused at 26 years when asked about marriage has now changed to feelings of humour. Would like to have own home, own garden. Enjoys work, challenges, new experiences, financial independence.

SUBJECT 76

1. 36
2. Unmarried
3. None
4. Ph.D
5. Masculine
6. High N/Ach
7. Independent
8. Adjusted
9. Yes
10. Status quo
11. Level eight
12. Good (4)
13. Uncertain

Summary:

Unmarried. Strongly career- and self-orientated. Totally absorbed in challenges of research problems. Reflects on life period involving crisis self/marriage/work and extended overseas tour which assisted her in deciding on life priorities.

SUBJECT 87

1. 41
2. Married
3. Two
4. B.A. Hons
5. Androgynous
6. High N/Ach
7. Independent
8. Anxious
9. Yes
10. Work/self
11. Level five
12. Good (4)
13. Continue

Summary:

Although still married, divorce proceedings are being followed. Gives evidence of new work involvement with own responsibility for future. New assessment of personal work pattern and potential career development. Personal interests are integrated with optimal opportunities for future financial gains.

SUBJECT 92

1. 45
2. Married
3. Two
4. D.Sc
5. Feminine
6. High N/AvF
7. Dependent
8. Adjusted
9. Uncertain
10. Status quo
11. Level five
12. Average (3)
13. Uncertain

Summary:

Married late in life, after expecting to remain single. Motherhood resulted in totally different life experiences and work involvement presently accepted as piece of luck and opportunity to obtain intrinsic academic satisfaction. Future career pattern vague. Work satisfaction sufficient and second in priority to home-role demands.

SUBJECT 97

1. 47
2. Married
3. Three
4. B.Sc
5. Feminine
6. High N/AvF
7. Dependent
8. Adjusted
9. Uncertain
10. Status quo
11. Level four
12. Good (4)
13. Stop

Summary:

Married. Forced by economic circumstances to start work when children more independent. Enjoys work routine. Does not aspire to increased job involvement. Expects to follow set routine until retirement and then to have time to do things around the home for which she now has no time.

SUBJECT 99

1. 49
2. Married
3. Three
4. M.Sc
5. Undifferentiated
6. N/AvF
7. Dependent
8. Adjusted
9. No
10. Family/self
11. Level three
12. Some (2)
13. Stop

Summary:

Married, and family-committed. Works to meet financial needs of children although husband professionally employed. Would have preferred to study and work in different academic field but circumstances (parents, husband, family, work demands) made it impossible for her to follow own inclinations. Waits for retirement to extend the social life which she would prefer to live.

SUBJECT 100

1. 49
2. Married
3. Two
4. M.Sc
5. Masculine
6. Low N/AvF
7. Dependent
8. Low adjusted
9. Yes
10. Status quo
11. Level eight
12. Excellent (5)
13. Uncertain

Summary:

Married, adult children. Very work involved, enjoys research because of academic interest, and analytic processes involved. Expects to work until retirement with career involvement including academic recognition rather than status or financial improvement.

SUBJECT 105

1. 53
2. Married
3. Five
4. B.A. (HED)
5. Feminine
6. N/AvF
7. Dependent
8. Low adjusted
9. Uncertain
10. Status quo
11. Level three
12. Good (4)
13. Uncertain

Summary:

Married, family-committed. Financial need resulted in work involvement. Personal loyalty divided between home and work. Family first priority although work challenges and personal stimulation in work result in experiencing of self, work, home conflicts. Expects to work until retirement unless home demands require full-time attention.

SUBJECT 106

1. 54
2. Widow
3. Two
4. D.Phil
5. Masculine
6. N/Ach
7. Independent
8. Adjusted
9. Yes
10. Work/career
11. Level eight
12. Some (2)
13. Continue

Summary:

Widow with independent children. Critical life circumstances caused need to identify with work as central life interest. Career orientated with strategic planning on long-term work objectives which still are to be realised. Retirement age is not seen as relevant deterrant.

A Note on the Computation of Scheffé Bounds for Estimates of Effects in a Non-Orthogonal Analysis of Variance Design

by MW MULLER

Let $y' = (y_1, y_2, \dots, y_n)$ be a row-vector of n independent, normally distributed random variables with common variance σ^2 and a structured mean vector μ' given by

$$\mu = X\beta,$$

where X is a matrix of order $n \times p$ of known constants and $\beta' = (\beta_1, \beta_2, \dots, \beta_p)$ is a vector of unknown parameters.

The Scheffé method gives simultaneous confidence intervals for linear combinations $\ell'\beta$. The method can be summarised (Miller, 1966, p.49) by the probability statement

$$P\{\ell'\beta \in \ell'\hat{\beta} \pm (dF_{d,n-p}^{\alpha})^{\frac{1}{2}} s(\ell'(X'X)^{-1}\ell)^{\frac{1}{2}}; \text{ for all } \ell\} = 1-\alpha \quad \text{--- (1)}$$

where d is the dimensionality of the linear space spanned by the vectors ℓ , s^2 is an estimate of σ^2 with $n-p$ degrees of freedom and $F_{d,n-p}^{\alpha}$ is the upper 100α percentage point of the F distribution with d degrees of freedom in the numerator and $n-p$ in the denominator.

Since $\sigma^2 \ell'(X'X)^{-1}\ell$ is the variance of the estimator $\ell'\hat{\beta}$, equation (1) can be written as

$$P\{\ell'\beta \in \ell'\hat{\beta} \pm [dF_{d,n-p}^{\alpha} \widehat{\text{var}}(\ell'\hat{\beta})]^{\frac{1}{2}} \text{ for all } \ell\} = 1-\alpha \quad \text{--- (2)}$$

where $\widehat{\text{var}}(\ell'\hat{\beta})$ is the variance of the estimate $\ell'\hat{\beta}$.

The specific problem to be considered is the application of these results to evaluate the significance of differences between the estimated effects corresponding to the levels of a single factor in a non-orthogonal analysis of variance design. In this situation the expressions for the variances of the effects are quite complex but fortunately the required bounds are readily obtained from the output of the GLIM computer program (Baker and Nelder, 1978). If the $\ell'\beta$ are contrasts corresponding to the pair-wise differences between k levels for a particular factor in the design then the value of d in equation (2) becomes $k-1$. As the program prints both a matrix of estimated differences $\ell'\hat{\beta}$ and a matrix of their respective standard deviations $\widehat{\text{var}}(\ell'\beta)^{1/2}$ it is merely necessary to multiply each element in the latter matrix by

$(k-1)F_{k-1, n-p}^{.05}$ to obtain simultaneous 95% confidence bounds for the differences. If a bound is smaller in absolute value than the corresponding difference then that difference can be regarded as significant.

REFERENCES

- Miller, R.G.M. (1966) Simultaneous Statistical Inference. New York, McGraw Hill.
- Baker, R.J. and J.A. Nelder (1978) The GLIM System Manual, Release 3. Oxford, Numerical Algorithms Group.